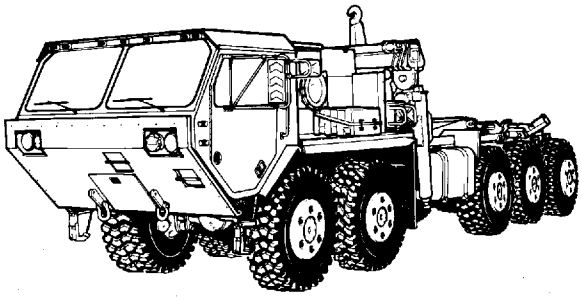
TM 9-2320-364-10

THIS MANUAL SUPERSEDES TM 9-2320-364-10 DATED AUGUST 1999, INCLUDING ALL CHANGES.

OPERATOR'S MANUAL



TRUCK, TRACTOR, M1074 AND M1075 PALLETIZED LOAD SYSTEM (PLS) NSN 2320-01-304-2277 NSN 2320-01-304-2278

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DISTRIBUTION RESTRICTION
Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

30 NOVEMBER 2005

WARNING

This truck has been designed to operate safely and efficiently within the limits specified in this TM. Operation beyond these limits is prohibited IAW AR 70-1 without written approval from the Commander, U.S. Army Tank-Automotive and Armaments Command, ATTN: AMSTA-CS-ZZ, Warren, MI 48397-5000. Failure to comply could result in injury or death to personnel.

WARNING

Engine must be shut off and parking brake set before performing PMCS walkaround. Severe injury to personnel may result.

WARNING

Keep fingers clear of top of lift-hook or injury to personnel could result.

WARNING

Before performing the next step, ensure that no personnel are in front of truck. Be ready to apply the service brake. Operator must remain in cab while performing this check to prevent possible serious injury or death to other personnel.

WARNING

Ensure air pressure is between 110 to 125 psi (758 to 861 kPa) or injury to personnel may result.

WARNING

Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.

WARNING

Do not remove the radiator cap when the engine is hot; steam and hot coolant can escape and burn personnel.

WARNING

The exhaust pipe and muffler are very hot during truck operation. Do not touch these parts with bare hands, or allow body to come in contact with exhaust pipe or muffler. Exhaust system parts can cause serious burns.

WARNING

Parking brake must be set before checking transmission fluid. Failure to comply may result in injury to personnel.

WARNING

Transmission fluid may be hot and can cause severe burns.

WARNING

Radiator coolant can be extremely hot and cause severe burns.

WARNING

Use extreme caution when checking radiator hoses and clamps or injury to personnel may result.

WARNING

Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep fire extinguisher within easy reach when working with fuel. Do not work on fuel system when engine is hot. Fuel can be ignited by hot engine.

WARNING

Lead-acid battery gases can explode. Do not smoke, have open flames, or make sparks around a battery, especially if caps are off. If a battery is gassing, it can explode and cause injury to personnel.

WARNING

Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry or tools contact positive electrical circuits a direct short may result. Damage to equipment, injury or death to personnel may occur.

WARNING

Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death.

WARNING

Keep hands and feet away from outrigger jacks while operating lever to avoid injury.

WARNING

Always use outrigger jack control valve on the same side of the truck as the outrigger jack being extended into outrigger pad or serious injury or death may result.

WARNING

Care must be taken when disconnecting HOIST load hook from hook block tiedown. A swinging hook block can cause serious injury or death to personnel.

WARNING

Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.

WARNING

Load hook must not extend beyond attaching point of load. When lifting load, boom will deflect slightly and load radius will increase depending on length of boom and weight of load. Boom deflection may cause load to swing out and cause injury or death to personnel and/or damage to equipment.

WARNING

Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.

WARNING

Wire rope can become frayed or contain broken wires. Wear heavy leather-palmed work gloves when handling wire rope. Frayed or broken wires can injure hands.

WARNING

Never let moving wire rope slide through hands, even when wearing gloves. A broken wire could cut through glove and cut hand.

WARNING

Ensure REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch is in OFF position and switch guard is closed before connecting REMOTE CONTROL UNIT. Crane moving out of control could cause serious injury or death.

WARNING

If electrical power fails during crane operation, move switch on remote control unit to SHUTDOWN position. Serious injury could result from uncontrolled moving parts.

WARNING

Always use seat belts when operating truck. Failure to use seat belt can result in serious injury in case of accident.

WARNING

When operating truck at speeds of 55 mph (89 km/hr) with windows down, or when operating crane, hearing protection must be worn or hearing loss may result.

WARNING

Ensure that all personnel are clear of truck before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start engine. Failure to do so could result in serious injury or death to personnel.

WARNING

CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressures may not match driving speeds. Failure to follow these instructions may result in unsafe driving conditions or tire failure causing serious injury or death to personnel.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

WARNING

Apply engine brake only when truck tires have good traction. Use of engine brake on slick surfaces can cause truck to skid and cause injury or death to personnel.

WARNING

If EMERGENCY STEER light illuminates when driving, immediately pull truck over to side of road and stop, serious injury or death could result.

WARNING

Driver has limited vision to rear. Ground guide is required when driving truck in reverse to prevent possible injury.

WARNING

Do not park truck on steep grades. Serious injury to personnel could result.

WARNING

Do not touch exhaust section of arctic heater with bare hands; injury to personnel will result.

WARNING

Do not touch hot exhaust system with bare hands; injury to personnel will result.

WARNING

- If NBC exposure is suspected, all air filter media should be handled by personnel wearing protective equipment. Consult your unit NBC Officer or NBC NCO for appropriate handling or disposal procedures.
- Protective mask and filter unit will not protect against carbon monoxide.

WARNING

CARBON MONOXIDE (EXHAUST GAS) CAN KILL YOU

Carbon monoxide is a colorless, odorless, DEADLY POISONOUS gas and when breathed deprives body of oxygen and causes SUFFOCATION. Breathing air with carbon monoxide produces symptoms of headache, dizziness, loss of muscular control, a sleepy feeling, and coma. Permanent BRAIN DAMAGE or DEATH can result from severe exposure.

The following precautions MUST be followed to ensure personnel are safe whenever arctic heater or engine is operated for any purpose. Injury to personnel may result.

- DO NOT operate arctic heater or engine of truck in enclosed area without adequate ventilation.
- DO NOT drive any truck with inspection plates, cover plates, or engine compartment doors removed unless necessary for maintenance purposes.
- NEVER sleep in a truck when the heater is operating or the engine is idling.
- BE ALERT at all times during truck operation for exhaust symptoms. If either are present, IMMEDIATELY EVACUATE AND VENTILATE the area. Affected personnel treatment shall be: expose to fresh air; keep warm; DO NOT PERMIT PHYSICAL EXERCISE; if necessary, give artificial respiration as described in FM 21-11 and get medical attention.
- BE AWARE; neither the gas particulate filter unit nor field protection mask for nuclear-biological-chemical protection will protect you from carbon monoxide poisoning.

THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS GOOD VENTILATION

WARNING

Spring clip on filter assembly air intake must be pulled so intake holes are open for gas particulate filter system to work. Failure to pull out clip may result in death to personnel.

WARNING

Under arctic conditions, danger of frostbite exists. Mask can be put on, but air duct hose socket should not be connected to mask canister until M-3 heater has been on for 15 minutes. Failure to follow proper procedures may cause serious injury to personnel.

WARNING

Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.

WARNING

Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

WARNING

When loading or unloading flatracks on uneven ground (side slope or downgrades up to ten degrees), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

WARNING

Ensure that flatrack runners contact LHS rear rollers correctly. Failure to contact flatrack runners correctly could result in serious injury or death to personnel and damage to equipment.

WARNING

Never drive with NO TRANS light illuminated. An illuminated lights means LHS is not fully stowed. The load could break loose causing serious injury or death to personnel.

WARNING

Trailer wheels must be chocked during transfer operations or serious injury or death could result.

WARNING

When operating PLS truck with PLS trailer, the heaviest loaded flatrack must always be placed on the truck, otherwise adverse handling and/or braking may result, causing injury to personnel or death.

WARNING

Ensure trailer air system is charged before beginning transfer, or flatrack locks may not properly engage. Serious injury or death could result to personnel.

WARNING

Ensure trailer air system is pressurized before beginning transfer, or flatrack locks may not properly disengage. Serious injury or death could result to personnel and damage to equipment may result.

WARNING

Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

WARNING

Use caution when handling outrigger pads. Sharp edges can injure hands.

WARNING

Keep hands and feet away from outrigger jack cylinders and outrigger pads while operating outrigger jack levers to avoid injury to personnel.

WARNING

Outrigger jack cylinders must be extended to remove enough weight from the suspension so that the tires do not bulge, or truck could roll over, causing serious injury or death.

WARNING

Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death.

WARNING

Operator must keep control of load at all times. If necessary, attach cargo tiedowns to load for use as a control tether. Load moving out of control could cause serious injury or death.

WARNING

When operating two control levers at the same time, if one function is held wide open and “dead-headed” (i.e. cylinder is fully extended) and another function is operated, the second function can operate at a greater than normal speed, which could cause loss of control and serious injury or death to personnel.

WARNING

Ensure there are at least two wraps of cable on hoist drum at all times. Serious injury or death could result if cable comes off hoist drum while lifting load.

WARNING

Shut off and remove REMOTE CONTROL UNIT from around neck and shoulders prior to climbing on truck, flatrack or load or serious injury or death to personnel may result.

WARNING

Operator should use REMOTE CONTROL UNIT if the load or boom will pass overhead. Load or boom could fall, causing serious injury or death.

WARNING

Always wear heavy gloves when handling cables. Never let cable run through hands; frayed cables can cut. Never operate winch with less than five wraps of cable on winch drum. Serious injury or death could result if cable comes off drum while winching.

WARNING

Avoid quick, jerking winch operation. Keep other personnel well away from truck involved in winching operation. A snapped cable or shifting load can cause serious injury or death.

WARNING

Do not operate winch while personnel are working on or around cable guides. Severe injury to arms, hands, and fingers may result if cable moves while working with cable and cable guides.

WARNING

Keep all personnel clear of area near cable when tension is on cable. If winch cable breaks, it can cause severe injury or death.

WARNING

Do not use winch to reel clevis end of cable through roller guides. Clevis may catch on roller guide and cause cable or roller guide to break. Broken cables or roller guides can cause serious injury or death.

WARNING

Keep all personnel clear of winch area when winch is reeling in cable. If hands are caught in winch or cable, or if cable breaks under tension, severe injury or death could occur.

WARNING

Do not reel in cable too tightly or injury to personnel may occur if too much tension is applied to eyelet.

WARNING

Do not reel in cable too tightly. If too much tension is applied, cable or eyelet can break, or winch may be damaged. Broken cables or roller guides can cause serious injury or death.

WARNING

Do not touch extremely cold metal (below -26 degrees F [-32 degrees C]). Bare skin may freeze to cold metal and cause injury to personnel.

WARNING

Do not ford water unless depth is known. Water deeper than 4 ft. (1.2 m) may enter truck causing personnel injury or equipment damage.

WARNING

The disabled PLS truck being towed, must have no load or less lead than the PLS towing truck. Failure to follow proper procedures may cause serious injury or death.

WARNING

If brakes on disabled truck must be manually released, ensure that the wheels of the disabled truck are chocked prior to manually releasing the brakes. Failure to chock wheels could cause serious injury or death to personnel.

WARNING

Wheels on disabled truck must be chocked prior to disconnecting from towing vehicle. Failure to chock wheels on disabled truck could cause serious injury or death to personnel.

WARNING

Tow bar weighs 330 lbs. (150 kg). Use suitable lifting device or assistants to lift tow bar. Failure to comply could cause serious injury or death to personnel.

WARNING

Components are extremely hot. Use caution when performing the following procedure to avoid injury.

WARNING

Do not put hands near coupler while aligning clevis and tow bar with coupler jaw. If towing vehicle moves suddenly it may cause serious injury.

WARNING

Operation at speeds over 15 mph (24 km/h) on paved road can be achieved when the operator determines that the truck being towed and the terrain allow safe operation. Under no condition can speeds over 35 mph (55 km/h) on paved road and 15 mph (224 km/h) off-road be allowed. Loss of control can cause serious injury or death to personnel. Excessive speed can cause damage to truck being towed.

WARNING

Tow bar weighs 330 lbs. (150 kg). Personnel must stand clear of towbar while disconnecting. Towbar will drop to the ground as towing truck pulls forward. Failure to follow proper procedures can cause serious injury to personnel.

WARNING

Brake chamber contains a spring that is under great pressure. To prevent injury or death, never work directly behind brake chamber. Do not disassemble brake chamber.

WARNING

Chock the truck wheels with chock blocks between Axle No. 3 and 4 on both sides of the truck. Failure to chock the wheels could result in severe injury or death.

WARNING

Battery acid (electrolyte) is extremely harmful. Always wear safety goggles and rubber gloves, and do not smoke when performing maintenance on batteries. Injury will result if acid contacts skin or eyes. Wear rubber apron to prevent clothing from being damaged.

WARNING

Operating the truck with an air pressure system loss is dangerous. The truck has reduced braking capability. Operating truck with loss of air pressure may cause serious injury or death to personnel.

WARNING

Steep terrain, slippery conditions, and other hazardous driving factors must be considered before attempting to drive in an emergency situation. Failure to comply may result in injury or death to personnel.

WARNING

If air pressure gage reads approximately 45 psi (310 kPa) or less, spring brakes will be fully applied automatically causing possible loss of control. Serious injury or death may result.

WARNING

Maximum braking requires 90 psi (621 kPa) or more air pressure. If air pressure drops below 90 psi (621 kPa), braking ability will be reduced. If air pressure continues to drop air system is malfunctioning. Brake failure may result causing injury or death to personnel.

WARNING

After caging brakes, truck brakes will be inoperative possibly causing injury or death to personnel.

WARNING

Hydraulic fluid is under great pressure. Engines on both trucks must be shut off while disconnecting hydraulic lines. Failure to do so could cause serious injury or death to personnel.

WARNING

M1077 flatrack weighs 3,200 lbs. (1,453 kg). M1077A1 flatrack weighs 3,900 lbs. (1,771 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel.

WARNING

Lift-hook weighs 150 lbs. (68 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel.

WARNING

Personnel must stand clear of flatrack and lift-hook areas during manual unload procedures or injury to personnel may result.

WARNING

Brackets weigh 80 lbs. (36 kg). Use an assistant to prevent injury to personnel.

WARNING

Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a system height of 17 ft. two in. (5.22 m) with ISO container. Serious injury or death to personnel could result from contact with electrical power lines.

WARNING

Radiator, radiator cap, coolant, and hoses are very hot and pressurized during truck operation. Let radiator cool before checking hoses. Failure to do so may result in serious burns to personnel.

WARNING

Hot hydraulic oil may cause serious burns.

WARNING

Driver must not exceed maximum speed for tire pressure selected or unsafe handling or tire damage may result.

WARNING

When the wire is cut and the override valve is pushed in, the crane overload safety features do not function. Make sure outrigger jacks are firmly in place or injury to personnel or equipment damage could result.

WARNING

Operator will have limited visibility of load when using the manual controls. Use a ground guide to relay signals to the operator. Boom and load moving out of control could cause serious injury or death.

WARNING

Park truck in safe area, out of traffic, where there is no danger to personnel changing tire assembly. Park truck on hard, level ground.

WARNING

Crew member should steady the tire during removal. Falling tire may cause injury to personnel.

WARNING

Fuel is very flammable and can explode easily. To avoid serious injury or death:

- Keep fuel away from open flame or any spark (ignition source).
- Keep at least a B-C fire extinguisher within easy reach when working with fuel or on a fuel system.
- Do not work on fuel system when engine is hot; fuel can be ignited by a hot engine.
- Clean fuel tank to purge any flammable liquid or vapors before welding, grinding or using any heat producing device near the fuel tank.
- When refueling, stop truck, shut down engine, and apply parking brake. Ensure no open flame in near area. Never smoke. Never add fuel with engine running. Do not have driver seated when adding fuel. After fuel is added, securely close reservoir cap; a loose cap can cause a fuel leak or be a fire hazard. Before starting truck, check that no fuel is spilled on or around truck.

WARNING

Stand clear of tire when raising or lowering or injury to personnel may result.

WARNING

Do not let tire hang in midair for long period of time. Place tire on carrier or on ground as soon as possible. Tire is very heavy and could cause serious injury if it falls.

WARNING

Do not loosen or remove outer bolt circle nuts on wheel. Outer bolt circle holds wheel assembly together. Tire is under pressure and loosening these nuts can cause the tire to blow apart. Severe injury or death may occur.

WARNING

Keep hands away from the inside of the rim while removing tire or injury to personnel may result.

WARNING

Tire assembly weighs 500 lbs. (227 kg). Do not try to lift or catch tire assembly. Injury to personnel could result.

WARNING

Tire assembly is very heavy 500 lbs. (227 kg). Do not try to lift or catch tire assembly. Injury to personnel could result.

WARNING

Jack is under heavy pressure, keep hand clear while raising or lowering jack slowly to avoid injury to personnel.

WARNING

Do not lower jack too quickly as tire could fall causing serious injury or death.

WARNING

Spare tire air pressure must be checked properly or serious injury or death may result.

WARNING

Do not allow heated parts of arctic heater to contact hoses and wires of truck. Failure to comply could result in injury to personnel or damage to equipment.

WARNING

When operating crane, hearing protection must be worn or hearing loss may result.

WARNING

- Drycleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles, face shield, and gloves; use only in a well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breathe vapors. Keep away from heat or flame. Never smoke when using solvent. The flashpoint for Type II Drycleaning Solvent is 140 degrees F (60 degrees C) and Type III Drycleaning Solvent is 200 degrees F (93 degrees C). Failure to do so may result in injury or death to personnel.
- If personnel become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts skin or clothes, flush with cold water. If solvent contacts eyes, immediately flush eyes with water and get immediate medical attention.

WARNING

Ensure engine is OFF and truck parking brake is ON before preparing PLS truck for container mode. Failure to comply may result in injury or death to personnel.

WARNING

Speed limits posted on curves reflect speeds that are considered safe for automobiles. Heavy trucks with a high center of gravity can roll over at these speed limits. Use caution and reduce your speed limits. Use caution and reduce your speed below the posted limit before entering a curve. Failure to comply may result in vehicle crash and injury or death to personnel.

WARNING

Ensure fingers and hands are not between strut front and rear halves. Fingers and hands could become pinched during assembly causing injury to personnel.

WARNING

Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

t

WARNING

Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.

WARNING

Lifting frame must be unloaded on a flat level surface. Failure to comply may result in lifting frame tipping over unexpectedly causing injury or death to personnel.

WARNING

Both right and left side flipper brackets and flipper bracket lockplates must engage pivot pin on hook arm. Failure to comply will result in lifting frame falling off of hook arm and could cause injury or death to personnel.

WARNING

Hands may get pinched when installing container guide into slider. Hold container guides by outer edges of plate to avoid pinching between container guides and slider. Failure to comply may result in injury to personnel.

WARNING

Ensure lifting frame is free of snow, ice, and mud when installing on LHS. Lifting frame may be unbalanced and may cause injury or death to personnel.

WARNING

When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

WARNING

Ensure that container has contacted rear sliders correctly and is between guides. Failure to comply may result in serious injury or death to personnel and damage to equipment.

WARNING

Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.

WARNING

Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.

WARNING

Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a container. Any ground instability beneath road wheels could cause serious injury or death to personnel.

WARNING

Prior to and during any load or unload cycle, all personnel should stay clear of LHS, lifting frame, and container or serious injury or death may result.

WARNING

Ensure that all tension has been relieved between LHS hook and lifting frame prior to unlocking lifting frame lower container locks. Stay clear of lifting frame when unlocking lifting frame lower container locks as lifting frame may separate from container unexpectedly. Failure to comply may result in serious injury or death to personnel.

WARNING

Maximum permissible gross container weight is 35,000 lbs.(15,890 kg).

WARNING

Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.

WARNING

Do not stand between lifting frame and container. Truck could roll crushing personnel between them causing serious injury or death.

WARNING

Do not allow lifting frame to contact the ground when slide arm upper front hooks are not engaged with container upper corner castings. Failure to comply may result in damage to equipment and injury or death to personnel.

WARNING

Do not allow lifting frame to contact the ground when slide arm 6 foot hooks are not engaged with container upper corner castings. Failure to comply may result in damage to equipment and injury or death to personnel.

WARNING

Ensure not to hold on to front of slider when stowing. Hands and fingers may be pinched between front of slider and hard lift bracket causing injury to personnel.

WARNING

Lifting frame must be properly secured to HA pivot pin.

WARNING

Flipper bracket and flipper bracket lock plate must be properly locked to pivot pin before operating LHS to stow lifting frame. Failure to comply could cause lifting frame to become unhooked and cause injury or death to personnel.

WARNING

Before stowing lifting frame on truck, ensure paddles are rotated to engage position, bumper support rotated forward, slide arms stowed and rear container locks are stowed on lifting frame.

WARNING

Do not put hands, arms or any body parts under container when positioning chock blocks. Failure to comply may result in injury or death to personnel.

WARNING

Do not allow lifting frame to contact the ground. Failure to comply may result in the lifting frame disengaging the LHS hook arm which could result in damage to equipment and injury or death to personnel.

WARNING

Lifting frame and hook weigh 1750 lbs. (793 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personal.

WARNING

These simplified procedures are to be used only as a guide. Full procedures for operation of the container handling unit (CHU) are to be followed as authored in (Para 2-32 through 2-43).

WARNING

Do not back up truck without ground guide. Limited vision can lead to truck damage and injury to personnel.

WARNING

The disabled truck being towed must have no load or less load than the towing truck or personal injury or death may result.

WARNING

When towed disabled truck does not have braking capability, stopping distances will increase greatly. Do not exceed 25 mph (40 km/h) on paved surfaces or injury or death may result.

WARNING

Extreme caution must be used when towing PLS off road. Side slopes and steep grades can cause loss of control resulting in injury or death. Under these conditions, speeds over 15 mph (24 km/h) will not be allowed. Injury or death may result. Excessive speed can cause damage to disabled truck.

WARNING

Ensure operator, objects and other personnel are clear of LHS and truck during LHS operation or serious injury or death could result to personnel.

WARNING

Keep all personnel away from rear of flatrack and chains while attempting to disengage the load locks. Chains will be under great tension and could unhook or fail, resulting in serious injury or death.

WARNING

Hold end of air hose when connecting to quick-disconnect coupling. Air hose is under pressure and can fly out at fast rate of speed causing injury to personnel.

WARNING

Before inflating or deflating, stand out of the trajectory area or personal injury or death may result.

WARNING

If the tire is underinflated or overinflated, or there is obvious or suspected damage on the tire or wheel components, the tire must be completely deflated by removing the valve core from the valve stem or personal injury or death may result.

WARNING

Lift-hook weighs 150 lbs. (68 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel.

WARNING

Park truck, set parking brake, stop engine and chock tires before doing Step 3 or serious injury or death to personnel could result.

WARNING

Tire air pressure must be checked properly or serious injury or death may result.

WARNING

Stand clear of tire when raising or lowering.

WARNING

Ladder is only intended for use on the PLS. The two hooks on the ladder must be installed in the holes located on top of the fender prior to use. Using the ladder for other applications could result in serious injury to personnel.

WARNING

Ensure that ladder is clean and free of debris or personnel may slip and cause injury.

WARNING

Keep hands and fingers clear of ladder rungs and sides when placing ladder in the stowed position or injury to personnel may result.

WARNING

Use only impact sockets and impact extensions with air wrench. Failure to comply could result in injury to personnel and damage to equipment. Safety goggles must be worn when operating air wrench.

WARNING

Components are extremely hot. Use caution when performing the following procedure to avoid injury.

z

WARNING

There are both left side and right side CROP loading ramps. For proper operation, they must be engaged on proper side.

WARNING

To ensure proper engagement and operation of CROP loading ramps, the following installation instructions must be followed.

WARNING

One CROP weighs 3,800 lbs. (1,724 kg). Six CROPs weigh 22,800 lbs. (10,342 kg). Ensure all personnel stand clear of CROP when CROP is being moved. Failure to comply may result in severe injury or death to personnel.

WARNING

Always lift stack of CROPs by connecting lifting device to bottom CROP. Failure to comply may result in severe injury to personnel or damage to equipment.

WARNING

Do not stand between CROP and ISO container. Ensure all personnel stand clear of CROP when CROP is being moved. Failure to comply may result in severe injury or death to personnel.

WARNING

Closely observe stack of CROPs during this part of offloading to ensure CROPs do not come in contact with top of ISO container door opening or inside walls of ISO container. Failure to exercise extreme caution during insertion may result in damage to ISO container or CROP.

WARNING

When adjusting seat ride firmness, keep fingers out from under seat. Failure to comply may result in fingers being pinched.

LIST OF EFFECTIVE PAGES

Dates of issue for original and changed pages are:

Original 01 August 1999 Revision 0001 30 November 2005

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 1196 CONSISTING OF THE FOLLOWING:

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TM 9-2320-364-10

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON D.C., 30 November 2005

TRUCK, TRACTOR, M1074 AND M1075 PALLETIZED LOADING SYSTEM (PLS) (NSN 2320-01-304-2277) (NSN 2320-01-304-2278)

Current as of 31 October 2005

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes, or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028-2 (Recommended Changes to Equipment Technical Publications), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is http://aeps.ria.army.mil. If you need a password, scroll down and click on "ACCESS REQUEST FORM." The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or email your letter, DA Form 2028, or DA Form 2028-2 manual directly to: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-LC-CIP-WT, Rock Island, IL 61299-7630. The email address is TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

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HOW TO USE THIS MANUAL

This manual is designed to help operate and maintain the Model M1074 and M1075 Tractor Truck, NSN 2320-01-304-2277 and 2320-01-304-2278. Listed below are some of the features included in this manual to help locate and use the needed information:

- A front cover Table of Contents is provided for quick reference to chapters and sections that will be used often.
- Warning, caution and note headings, subject headings and other essential information are printed in bold type making them easier to see.
- In addition to text, there are exploded-view illustrations showing how to take a component off and put it back on. Cleaning and inspection criteria are also included where necessary.
- Chapter 1 of this manual describes the PLS and provides equipment data.
- Chapter 2 of this manual covers Operator's Controls and Indicators, Preventive Maintenance and Operating Instructions.
- Chapter 3 of this manual covers instructions for Troubleshooting and Unscheduled Maintenance.
- Appendix A covers the References used in this manual.
- Appendix B covers the Componets of End Item (COEI) and Basic Issue Items (BII) Lists.
- Appendix C covers the Additional Authorized List (AAL) of items authorized for the PLS.
- Appendix D covers the Expendable and Durable Items List for the PLS.
- Appendix E covers the stowage and sign guide for the PLS.
- Appendix F covers the On-Truck equipment loading plan for the PLS.
- Appendix G covers the Operator's Lubrication requirements for the PLS.
- An Alphabetical Index is provided to help locate items in the text.

Follow these guidelines when using this manual:

- The operator must read through this manual and become familiar with the contents before attempting to operate the PLS.
- Read all WARNINGS and CAUTIONS before performing any procedure.

CHAPTER 1

INTRODUCTION

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Section I. GENERAL INFORMATION

1-1. SCOPE.

This manual is provided to maximize use of the Palletized Load System (PLS) by presenting operation and operator performed maintenance instructions. Read these instructions thoroughly before operating the truck. This manual is used for operation of the Palletized Load System M1074 and M1075 series, hereafter called the truck, and associated equipment. M1074 series trucks are similar to M1075 except for the addition of a Material Handling Crane (MHC), and Self-Recovery Winch (SRW) Kit. Models are listed on page 1-2.

1-1. SCOPE (CONT).

MODEL	DESCRIPTION
M1074	Cargo truck equipped with a Load Handling System (LHS) capable of self-loading and unloading. The truck is also equipped with a Material Handling Crane (MHC). See Figure 1-1.
M1075	Cargo truck equipped with a Load Handling System (LHS) capable of self-loading and unloading. See Figure 1-2.
M1076	Palletized Load System Trailer (PLST) is designed specifically for Palletized Load System. The trailer can be loaded directly from the truck using the Load Handling System (LHS) and Flatrack M1077. See Figure 1-3.
M1077	The flatrack is designed specifically for use with the Palletized Load System (PLS). The flatrack is used as a movable cargo bed for the truck and Palletized Load System Trailer (PLST). See Figure 1-4.

1-2. MAINTENANCE FORMS AND RECORDS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS) (Maintenance Management UPDATE).

1-3. CORROSION PREVENTION AND CONTROL (CPC).

The PLS has a total service life of ten years which allows for extended periods of operation in a corrosive environment. A corrosive environment includes exposure to high humidity, salt spray, road-deicing chemicals, gravel, and atmospheric contamination. No action beyond normal washing and repair of damaged areas is necessary to control corrosion. To prevent moisture accumulation, drain holes are provided on structural and sheet metal areas where necessary. Stowage boxes are provided with seals and baffled drains.

1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

Refer to TM 750-244-6, Procedures for Destruction of Tank Automotive Equipment to Prevent Enemy Use.

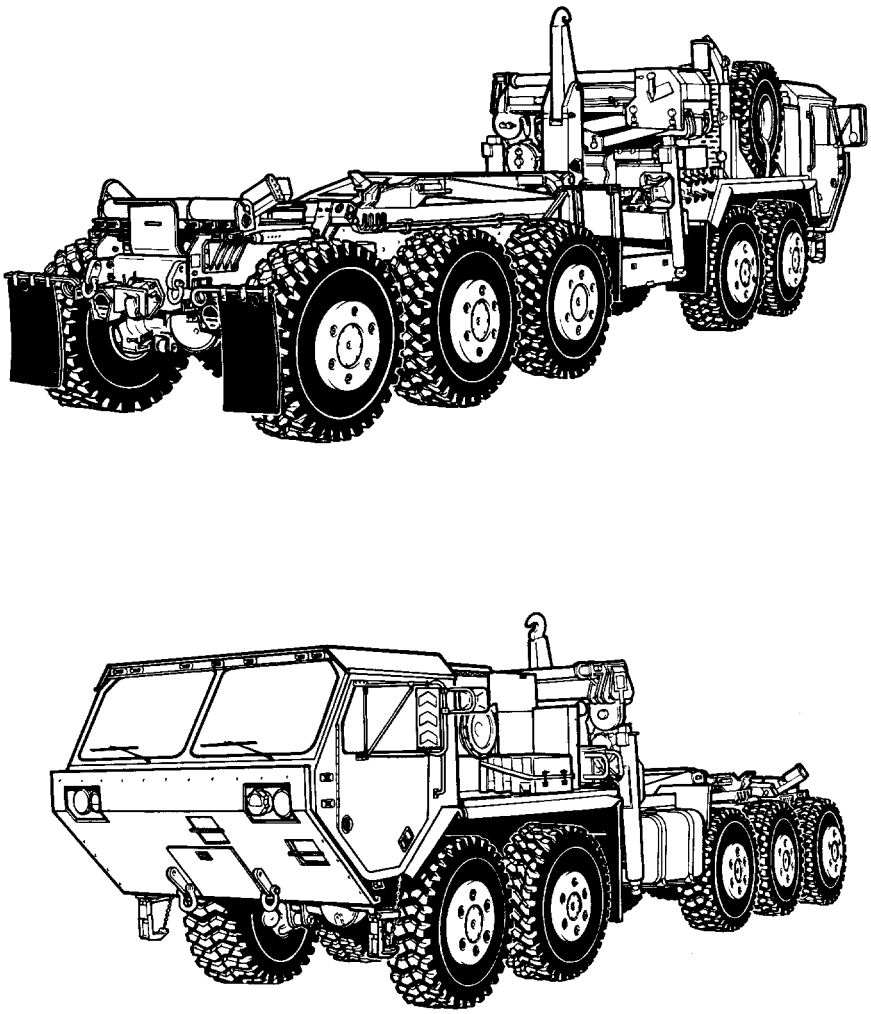


Figure 1-1. M1074 Palletized Load System Truck (With Crane)

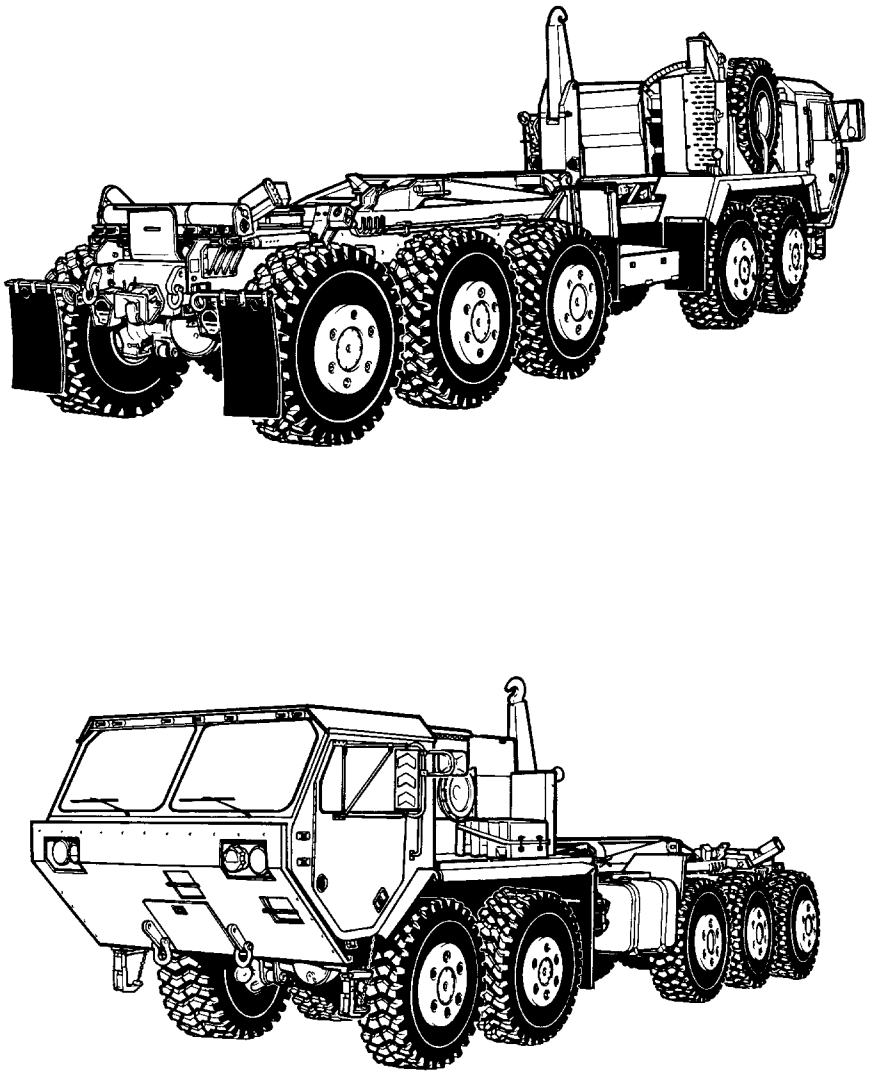


Figure 1-2. M1075 Palletized Load System Truck (Without Crane) (Without Container Handling Unit)

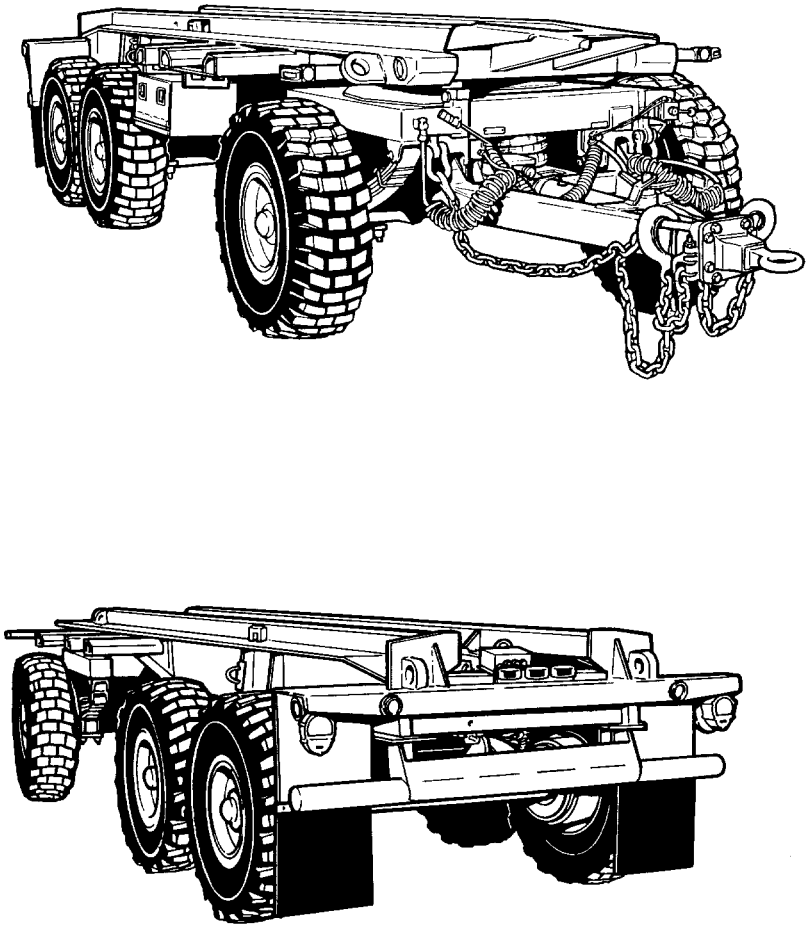


Figure 1-3. M1076 Palletized Load System Trailer (PLST)

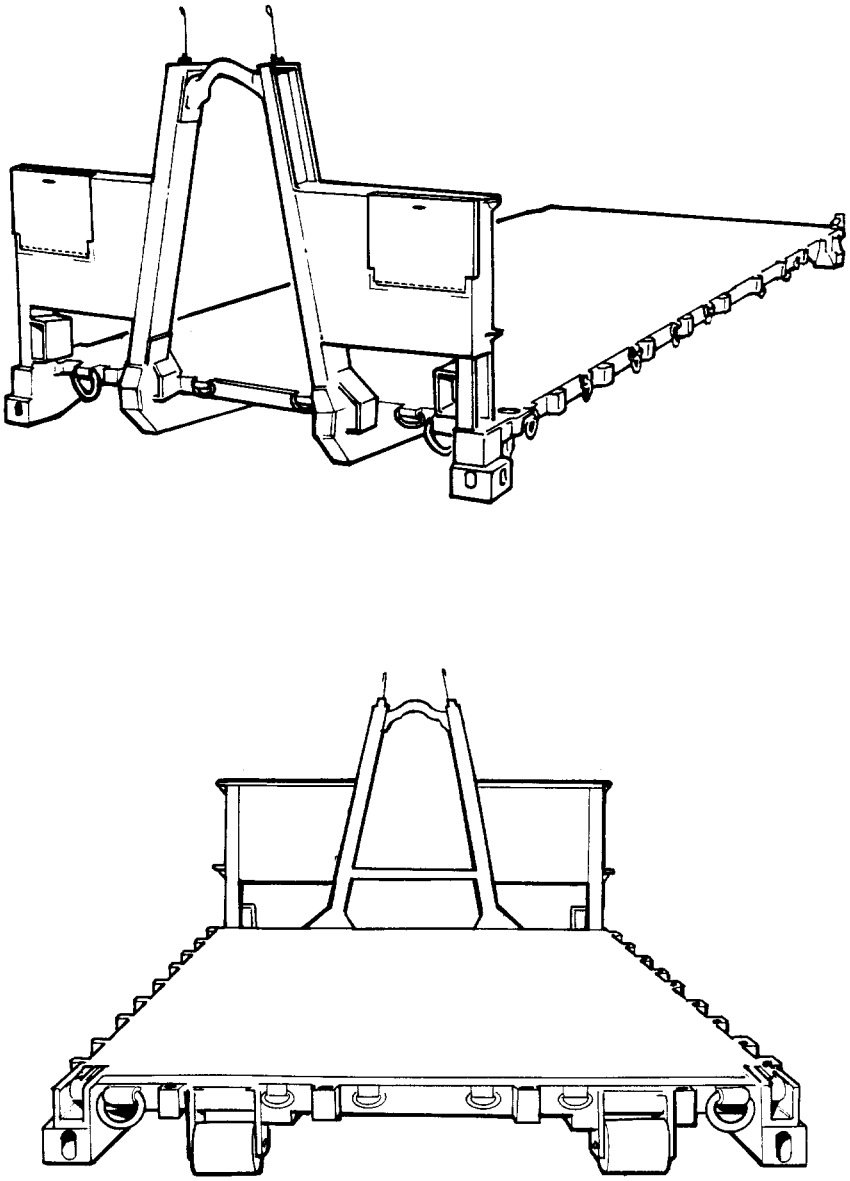


Figure 1-4. M1077 Flatrack

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

If your Palletized Load System needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on a SF 368 (Product Quality Deficiency Report). Mail it to us at: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E-MPA, Warren, MI 48397-5000. We'll send you a reply.

1-6. WARRANTY INFORMATION.

The PLS is warranteed by Oshkosh Truck Corporation for 12 months. For complete information covering this warranty refer to TB 9-2320-364-15, Warranty Procedures for Truck, Tractor, M1074 and M1075, Palletized Load System (PLS) NSN 2320-01-304-2277 and 2320-01-304-2278.

1-7. NOMENCLATURE CROSS-REFERENCE LIST.

This listing includes nomenclature cross-reference list and a list of abbreviations used in this manual.

a. Nomenclature Cross-Reference List

Common Name	**Official Nomenclature**
Engine Coolant	- Antifreeze, ethylene glycol mixture
Cold Start System	- Ether quick start system
Cable	- Wire rope
Glad Hand	- Quick disconnect air coupling
Throttle Pedal	- Throttle control
Service Brake Pedal	- Brake pedal
Jake Brake	- Engine brake

1-8. LIST OF ABBREVIATIONS.

AAL ..... Additional Authorization List
amp ..... Amperes
AOAP ..... Army Oil Analysis Program
ATEC ..... Allison Transmission Electronic Control
BII ..... Basic Issue Item
C ..... Centigrade

1-8. LIST OF ABBREVIATIONS (CONT).

CBR ..... Chemical, Biological, Radiological
CCA ..... Cold Cranking Amps
CCW ..... Counterclockwise
CHU ..... Container Handling Unit
CID ..... Cubic Inch Displacement
CKT ..... Circuit
cm ..... Centimeter
COEI ..... Components of End Item
CTA ..... Common Table of Allowance
CTIS ..... Central Tire Inflation System
cu in. ..... Cubic Inch
CW ..... Clockwise
DA ..... Department of the Army
DDC ..... Detroit Diesel Corporation
DDEC II ..... Detroit Diesel Electronic Control II
DDEC III ..... Detroit Diesel Electronic Control III
DDEC lV..... Detroit Diesel Electronic Control lV
ECU ..... Electronic Control Unit
EIR ..... Equipment Improvement Recommendation
F ..... Fahrenheit
FCRD ..... Fault Code Retrieval Device
FR ..... Flatrack
ft. ..... Foot
GAWR ..... Gross Axle Weight Rating
GCWR ..... Gross Combination Weight Rating
GFM ..... Government Furnished Material
GPFU ..... Gas Particulate Filter Unit
GPM ..... Gallons per Minute
GVW ..... Gross Truck Weight
Hcg ..... Horizontal Location of Center of Gravity
HD ..... Heavy Duty
hp ..... Horsepower
in. ..... Inch
ISO ..... International Standards Organization
LHS ..... Load Handling System
JTA ..... Joint Tables of Allowances
kg ..... Kilogram
km/h ..... Kilometer Per Hour
kPa ..... Kilopascal
kw ..... Kilowatt
L ..... Liter
lb-ft. ..... Pound-Foot
lb-in. ..... Pound-Inch
lb. ..... Pound
m ..... Meter
MHC ..... Material Handling Crane

ml ..... Mile
ml/rev ..... Milliliter per Revolution
mm ..... Millimeter
mph ..... Miles Per Hour
NBC ..... Nuclear, Biological, Chemical
OTC ..... Oshkosh Truck Corporation
PLS ..... Palletized Load System
PLST ..... Palletized Load System Trailer
PMCS ..... Preventive Maintenance Checks and Services
psi ..... Pound-Force Per Square Inch
pt. ..... Pint
PTO ..... Power Takeoff
RFI ..... Radio-Frequency Interference
rpm ..... Revolutions Per Minute
SAE ..... Society of Automotive Engineers
SRW ..... Self-Recovery Winch
STE/ICE ..... Simplified Test Equipment/Internal Combustion Engine
STD ..... Standard
TAMMS ..... The Army Maintenance Management System
TDA ..... Tables of Distribution and Allowance
TM ..... Technical Manual
Vcg ..... Vertical Location of Center of Gravity
vdc ..... Volts Direct Current
XHD ..... Extra Heavy-Duty

Section II. EQUIPMENT DESCRIPTION

1-9. EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES.

a. Characteristics. The PLS is an ammunition-hauling tactical wheeled truck and trailer combination with integral self-load/unload capability using PLS Flatrack (FR). There are two PLS configurations both with duplicate payload capacity and towing capability. One design incorporates a Material Handling Crane (MHC) (Figure 1-1). The other design does not have a MHC (Figure 1-2). Both trucks may have an accompanying towed PLS Trailer (PLST) (Figure 1-3). Major subsystems of truck are: cab, engine, transmission, drive train, suspension, electrical system, hydraulic system, pneumatic system, MHC, Load Handling System (LHS) and Central Tire Inflation System (CTIS).

1-9. EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES (CONT).

b. Capabilities.

(1) All models are capable of operating in temperatures from -25 to 120 degrees F (-32 to 49 degrees C) and to -50 degrees F (-46 degrees C) with the arctic kit installed.

(2) All models can ford water up to 48 in. (1219 mm) deep for five minutes without damage or requiring maintenance before operation can continue.

(3) Normal operating range for truck is 225 miles (362 km) based on 100 gallons (379 L) of fuel and 137,250 lb GCWR, traveling over mixed terrain. Varying loads, prolonged idle, use of the MHC, use of the LHS, off-road driving and climatic conditions affect operating range.

(4) All models are provided with sufficient tiedown points located so that the truck can be restrained in all directions during air transport. All models are capable of transport by highway, rail and sea.

c. Features.

(1) Eight cylinder, V-type, two cycle, fuel injected, electronically controlled, turbocharged diesel engine.

(2) Push button automatic transmission with one reverse speed and five forward speeds.

(3) High/low range transfer case.

(4) CTIS with four preset tire air pressures for positive traction in areas of unimproved road surfaces.

(5) Power steering system consists of basic steering system with a hydraulic boost. An emergency hydraulic steering pump is provided in case of primary system failure.

(6) Fuel system includes one main fuel tank, auxiliary fuel tank (if equipped), fuel lines, electric priming fuel pump, fuel water separator, fuel pump, secondary fuel filter and fuel injectors.

(7) Two front and two rear towing eyes.

(8) Manual-release-type rear self-guided coupler allows towing of trailer.

(9) Radio frequency interference suppression to permit voice radio communications during all phases of operation.

(10) SRW kit (optional) aides in truck self-recovery.

(11) LHS enables a single operator to load a flatrack to a truck and or a trailer.

(12) MHC enables a single operator to load/unload the flatrack on or off the truck. A remote control is provided for ease of use.

(13) The sideboard kit and tiedowns on the flatrack allow the truck to carry bulk loads.

(14) Multiple warning lights, gages and buzzers protect the systems from damage by warning the operator about unsafe operating conditions.

(15) Cab mounted circuit breakers protect electrical system from damage and can be reset from cab.

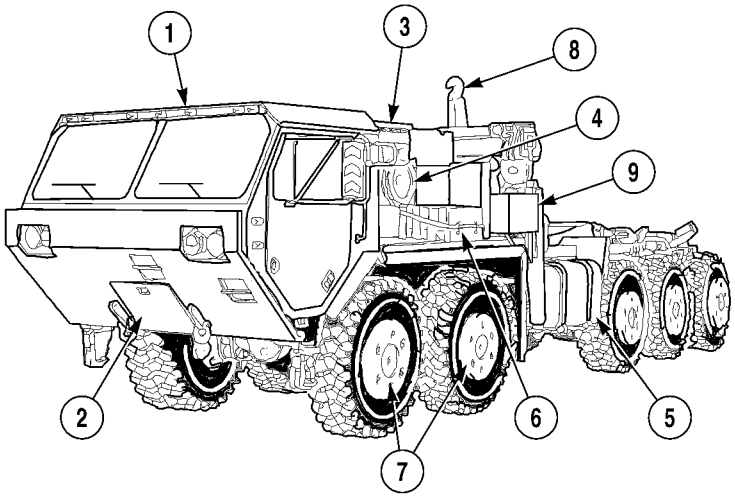
(16) In the event of hydraulic failure the PLS hydraulic system may be operated by connecting it to another PLS hydraulic system.

(17) MHC and LHS have backup systems in the event of hydraulic or electrical system failure.

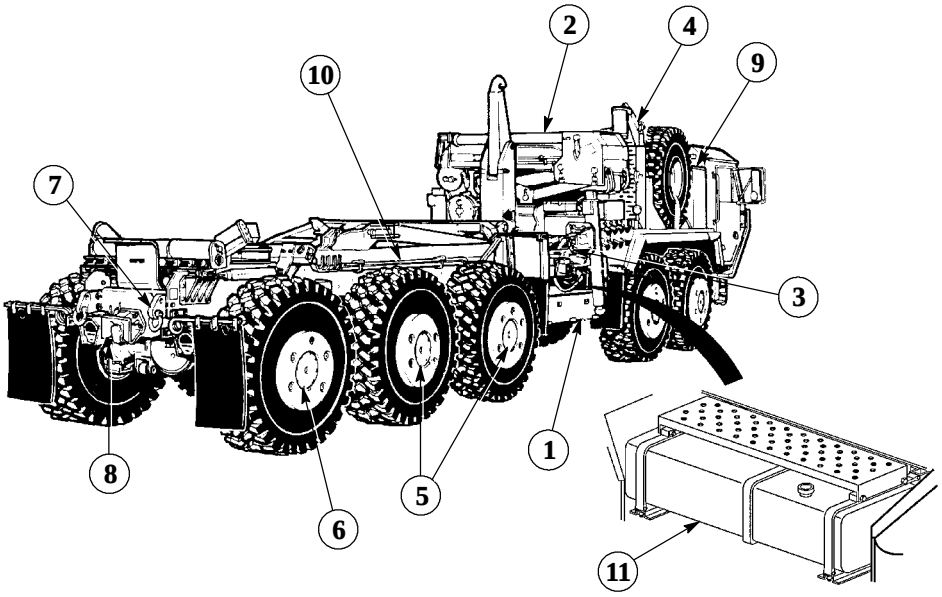
(18) Each truck is fitted for a Gas Particulate Filter Unit (GPFU) that would mount in the cab.

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

Major components and accessories found on PLS are illustrated and described below.



1. **PERSONNEL CAB.** Provides protection from weather for crew and truck controls, gages and indicators.
2. **FRONT ACCESS COVER.** Provides access to hydraulic pumps, Model A arctic heater and air reservoir.
3. **ENGINE COMPARTMENT.** Engine supplies power to move truck and operate equipment and accessories.
4. **AIR CLEANER.** Filters out dust and debris from air entering air induction system.
5. **MAIN FUEL TANK.** Stores fuel used to operate engine. Receives excess fuel not used by engine's fuel injection system.
6. **BATTERY BOX.** Houses and protects four storage batteries.
7. **AXLES NO. 1 AND 2.** Controls direction of truck when in motion. Transmits power to hubs to turn wheels.
8. **LOAD HANDLING SYSTEM (LHS).** Loads/unloads flatrack on truck and Palletized Load System Trailer (PLST).
9. **MODEL B ARCTIC HEATER.** Pumps coolant from engine, heats coolant, and returns coolant to engine.



1. **STOWAGE BOXES.** Used to stow Basic Issue Items (BII).
2. **MATERIAL HANDLING CRANE (MHC).** If equipped; used to load and unload cargo.
3. **SELF-RECOVERY WINCH (SRW).** If equipped; used to pull truck out of mired conditions.
4. **SPARE TIRE DAVIT.** Used to raise/lower spare tire to ground.
5. **AXLES NO. 3 AND 4.** Transmits power to hubs to turn wheels.
6. **AXLE NO. 5.** Controls direction of truck when in motion. Transmits power to hubs to turn wheels.
7. **TOWING EYES.** Attachment points for safety chains, towing shackles and towing.
8. **GLADHANDS.** Couples air supply to trailer.
9. **HYDRAULIC RESERVOIR.** Stores, cools and filters oil in hydraulic systems.
10. **ACCESS LADDER.** Used by crew to check oil or perform other tasks requiring access to parts of truck out of normal reach.
11. **AUXILIARY FUEL TANK.** If equipped; stores additional fuel to increase truck's operational range.

1-11. EQUIPMENT DATA.

Refer to the following tables for specific equipment data.

Table 1-1. Dimensions

Item	Specification
Width	96 in. (243.8 cm)
Height (maximum hook height)	129 in. (327.7 cm)
(with ISO container)	174 in. (442 cm)
Curb Weight	
M1075 w/o Material Handling Crane and	
w/ Self-Recovery Winch	50,000 lb. (22,700 kg)
M1074 w/ Material Handling Crane and	
Self-Recovery Winch	55,000 lb. (24,970 kg)
Gross Truck Weight	88,000 lb. (39,952 kg)
Gross Combination Weight	137,520 lb. (62,434 kg)
Length	
w/o Flatrack	35 ft. (10.7 m)
w/ Flatrack	36 ft. (11 m)
w/ Flatrack and ISO container	36 ft. 8 in. (11.2 m)
Wheelbase	224 in. (568.9 cm)
Ground Clearance	24 in. (61 cm)
Center of Gravity	See shipping data plate on left rear outside of cab
w/ Self-Recovery Winch	Hcg 100 in. (254 cm)
	Vcg 46.0 in. (117 cm)
w/ Material Handling Crane and	Hcg 97 in. (246 cm)
Self-Recovery Winch	Vcg 48.0 in. (122 cm)
w/ Container Handling Unit	Hcg 103 in. (262 cm)
	Vcg 48 in. (122 cm)
Container Handling Unit Stowed	Hcg 102 in. (259 cm)
	Vcg 48 in. (122 cm)

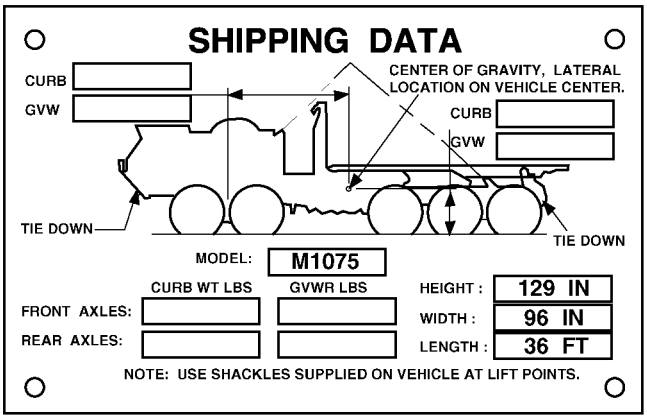


Figure 1-5. Center of Gravity

Table 1-2. Weight Distribution

Item	**M1075 w/o Crane w/ Self-Recovery Winch**	M1074 **w/ Crane and Self-Recovery Winch**	TBD W/ Container Handling Unit and Self-Recovery Winch
Front Tandem Axles - Curb	26,670 lb. (12,108 kg)	30,200 lb. (13,711 kg)	27,560 lb (12,512 Kg)
Front Tandem Axles - Loaded	28,560 lb. (12,966 kg)	32,110 lb. (14,578 kg)	32,320 lb (14,673 kg)
Rear Tridem Axles - Curb	23,330 lb. (10,592 kg)	24,800 lb. (11,259 kg)	25,440 lb (11,550 kg)
Rear Tridem Axles - Loaded	54,440 lb. (24,716 kg)	55,890 lb. (25,374 kg)	55,680 lb (25,279 kg)

1-11. EQUIPMENT DATA (CONT).

Table 1-3. Performance

Item	Specification
Cruising range at GCWR	225 ml (362 km)
with auxiliary fuel tank	400 ml (644 km)
Maximum sustained forward speed (at 2100 rpm)	
5th Gear	55 mph (88 km/h)
4th Gear	39 mph (63 km/h)
3rd Gear	27 mph (43 km/h)
2nd Gear	17 mph (27 km/h)
1st Gear	10 mph (16 km/h)
Speed on 2 percent grade at	
GCWR	35 mph (56 km/h)
GVW	50 mph (80 km/h)
Speed on 30 percent grade at (20 percent grade with EMM)	
GCWR	3 mph (5 km/h)
GVW	4 mph (6 km/h)
Maximum grade at	
GCWR	30 percent
GCWR (with EMM)	20 percent
GVW	50 percent
Maximum side slope with adequate traction surface (20 percent grade with EMM)	30 percent
Maximum towed speed (level tow) (for up to 100 miles on level, paved road)	35 mph (56 km/h)
Approach angle	40 degrees
Departure angle	60 degrees

Table 1-4. Load Classification Chart

Truck Condition	M1075	M1074
Unloaded truck	22	25
w/ unloaded M1076 trailer	28	30
Loaded truck	39	41
w/ loaded M1076 trailer	62	66
w/ unloaded M1076 trailer	43	46

Table 1-5. Capacities

Item	Specification
Engine Oil w/ Filter	32 qt. (30 L)
Cooling System	100 qt. (95 L)
Transmission w/ Filter	36.5 qt. (34.5 L)
Front Tandem Axle No. 1 Carrier	17 qt. (16 L)
Axle No. 2 Carrier	17.5 qt. (16.5 L)
Rear Tridem Axle No. 3 Carrier	22 qt. (21 L)
Axle No. 4 Carrier	19 qt. (17.1 L)
Axle No. 5 Carrier	15 qt. (14 L)
Wheel Ends	1.75 qt. (1.65 L)
Hydraulic Reservoir w/ Filters	234 qt. (221 L)
Power Steering Reservoir	33.5 qt. (31 L)
Fuel Tank (Main)	100 gal. (379 L)
Fuel Tank (Auxiliary)	85 gal. (322 L)
Transfer Case	10.5 qt. (9.9 L)
Radiator	96 qt. (91 L)
Windshield Wiper Fluid	3 qt. (2.8 L)
On and Off Road w/ Arctic Kit	-50 to 120 degrees F (-46 to 49 degrees C)
w/o Arctic Kit	-25 to 120 degrees F (-32 to 49 degrees C)

1-11. EQUIPMENT DATA (CONT).

Table 1-6. Engine Configuration

Item	Specification
Make	Detroit Diesel
Model	8V92TA (DDEC II and DDEC III/IV)
Type	2 stroke, V type diesel
Cylinders	8
Bore	4.82 in. (123 mm)
Stroke	5 in. (127 mm)
Displacement	736 CID (12 L)
Torque (at 1200 rpm)	1470 lb-ft. (1993 N·m)
Maximum Brake Horsepower (at 2000 to 2100 rpm)	SAE 500 (670 kw)
Maximum Governed Engine Speed	
Loaded	2050 to 2150 rpm
Unloaded	2175 to 2275 rpm
Oil Filter	
Type	Full flow, spin on
Quantity	1

Table 1-7. Fuel System Configuration

Item	Specification
Type	Diesel injection (electronically controlled)
Tank Quantity	Single or two if equipped with auxiliary fuel tank
Air Cleaner Type	60 hr Military
Element Quantity	1 primary, 1 secondary

Table 1-8. Cooling System

Item	Specification
Radiator Working Pressure	7 psi (48 kPa)

Table 1-9. Electrical System

Item	Specification
Voltage	12/24 dual voltage
Alternator	14 volts
System Amps	145/200
Voltage	14/28
Ground	Neg
Rotation	Reversible
Rpm Rated Output	5000
Maximum	8000
Drive Type	Pulley
Regulator, Cycling, External	14/28 volts
RFI Suppression Ability	YES
Batteries	
Number of	4
Voltage (each)	12-volts
Connection	Series - parallel
Capacity (at 20 hour rate)	900 amp
Reserve Capacity (each, at 80 degree F (27 degree C))	180 minutes
Cold Cranking Amps (each, at 0 degree F (-18 degree C))	575 CCA
Amp Hours (each, at 20 hour rate)	100 amp
Starter	12 volts solenoid attached

Table 1-10. Transmission

Item	Specification
Make	Allison
Model	CLT-755
Type	Automatic
Number of Speeds	
Forward	5
Reverse	1

1-11. EQUIPMENT DATA (CONT).

Table 1-11. Transfer Case

Item	Specification
Make	OTC
Model	55000 Series
Type	Automatic
Ratios	0.958:1, 2.464:1

Table 1-12. Axles

Item	Front Tandem	Rear Tridem
Make	Rockwell SVI 5 MR Hub Reduction	
Maximum Load Capacity	16.5 k GAWR	18.25 k GAWR

Table 1-13. Brake System

Item	Specification
Actuation	Air
Number of Brake Chambers	14
Pressure Range	60 to 125 psi (414 to 861 kPa)

Table 1-14. Wheels

Item	Specification
Type	2 piece bolt together with beadlock
Quantity	10
Spare Wheel Quantity	1
Rim Size	10 by 20 in.
Stud Quantity Per Wheel	10

Table 1-15. Tires

Item	Specification
Type	Tubeless
Quantity	10
Spare Wheel Quantity	1
Tread Type	Radial traction, non-directional
Size	16.00 R20
Load Range	M
Tire Pressure	Controlled by CTIS

Table 1-16. Tire Pressure (Cold)

Driving Condition	Front	Rear
Highway	65 psi (448 kPa)	75 psi (517 kPa)
Cross-country	34 psi (234 kPa)	38 psi (262 kPa)
Mud, sand and snow	20 psi (138 kPa)	23 psi (159 kPa)
Emergency	15 psi (103 kPa)	18 psi (124 kPa)
Spare	75 psi (517 kPa)	

Table 1-17. Steering System

Specification
Three gears with integrated hydraulic power assist

Table 1-18. Self-Guided Coupler

Item	Specification	
Type	Manual release	
Maximum Load Capacity	Pulling	Vertical
	100,000 (45,400 kg)	20,000 lb. (9080 kg)

1-11. EQUIPMENT DATA (CONT).

Table 1-19. Towing Eyes

Item	Specification
Quantity	4 (2 front, 2 rear)
Maximum Load Capacity (each)	60,000 lb. (27,240 kg)

Table 1-20. Cab

Item	Specification
Windshield	Tinted, 2 piece, safety glass
Personnel Capacity	2

Table 1-21. Material Handling Crane (MHC)

Item	Specification
Make	Grove
Model	PLS
Maximum Capacity At boom length of 22.5 ft. (6.86 m)	3,900 lb. (1771 kg)

Table 1-22. Container Handling Unit (CHU)

Item	Specification
Make	OTC
Model	CHU
Maximum Capacity	35,000 lb (15,890 kg)

Table 1-23. Self-Recovery Winch (SRW)

Item		Specification
Make		DP Manufacturing
Model		20K
Wire Rope	- Diameter	5/8 in. (15.9 mm)
	- Length	200 ft. (61 m)
Line Pull	- 1st layer (five wraps minimum)	20,000 lb. (9080 kg)
	- 2nd layer	18,000 lb. (8172 kg)
	- 3rd layer	16,360 lb. (7427 kg)
	- 4th layer	15,000 lb. (6810 kg)
	- 5th layer	13,850 lb. (6288 kg)

Table 1-24. Load Handling System (LHS)

Item	Specification
Make	OTC
Model	MK V

Table 1-25. Hydraulic Pump and Auxiliary Drive

Item	Specification
Pump Model	PVE35
Rated Speed	2200 rpm
Maximum Speed	2400 rpm
Rated Outlet Pressure Maximum	3625 psi (24,994 kPa)
Rated Temperature	225 degrees F (107 degrees C)
Theoretical Displacement	73.7 ml/rev

1-11. EQUIPMENT DATA (CONT).

Table 1-26. Air System

Item	Specification
Air Compressor	
Model	Bendix TU-FLO 1400
Number of Cylinders	4
Cylinder Configuration	In-line
Stroke	1.810 in.
Displacement Rotating at 1250 rpm	31 CFM
Maximum Rpm Water Cooled	3000 rpm
Maximum Discharge Air Temperature	400 degrees F (204 degrees C)
Minimum Pressure Required to Unload (Naturally aspirated)	60 psi (414 kPa)
Minimum Oil Pressure Required at:	
Engine Idling Speed	15 psi (103 kPa)
Maximum Governed Engine Speed	15 psi (103 kPa)
Air Dryer	Midland
Truck Air System	
Total Volume	7577 cu. in. (124,164 cc)
Air Pressure	125 ± 4 psi (862 kPa ± 28 kPa)

Table 1-27. Auxiliary Equipment

Item	Manufacturer
Container Handling Unit	OTC
Material Handling Crane	Grove Model PLS
Flatrack	OTC Model - PLS US Army
Side Board Kit	OTC
Trailer	OTC
Arctic Kit (Model A)	OTC
Arctic Heater (Model B)	Espar
Chemical Alarm	GFM
Decontamination Unit	GFM
Gas Particulate Filter Unit	GFM
Machine Gun Kit	OTC
Radio Installation Kit	OTC

1-11. EQUIPMENT DATA (CONT).

CAUTION

These are guidelines for operation, and may not be applicable under all circumstances. Refer to applicable paragraph in this manual for specific operating procedures to avoid damage to equipment.

NOTE

- Vehicle is operated at full payload.
- Grades are off road.

Table 1-28. Recommended Modes of Operation

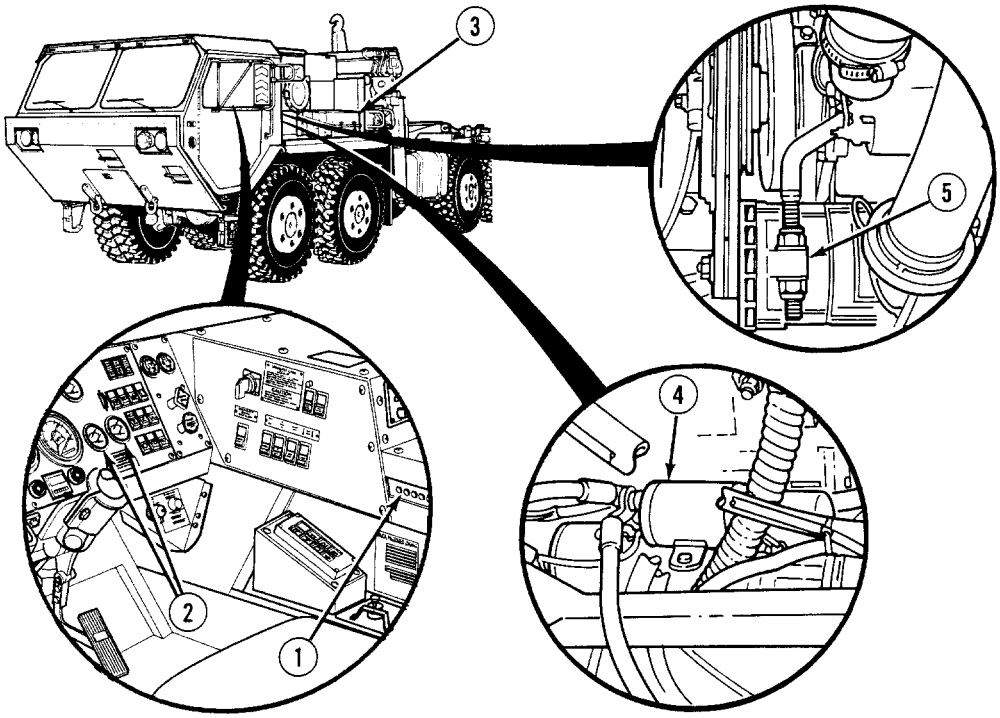
Road Condition	CTIS Setting				Transfer Case Setting			Resulting Axle Lockup		
	Hwy	CC	M/S/S	Emer	High	Low	Locked	Open	Side -Side	Axle - Axle
Highway	X				X			X		
Gravel/Dirt		X			X			X		
Mud/Sand/Snow No Wheel Spin			X			X				X
Mud/Sand/Snow With Wheel Spin			X			X	X			X
Mud/Sand/Snow With Wheel Spin				X		X	X		X	X
Fording-Hard Bottom		X				X				
Fording-Soft Bottom No Wheel Spin			X			X	X			X
Fording-Soft Bottom With Wheel Spin				X		X	X		X	X
Grade-Slight		X			X			X		
Grade-Moderate < Or = 15%		X				X		X		
Grade-Steep > 15 %			X			X	X			X
Grade-Steep With Wheel Spin				X		X	X		X	X

Section III. PRINCIPLES OF OPERATION

1-12. SYSTEMS INTRODUCTION.

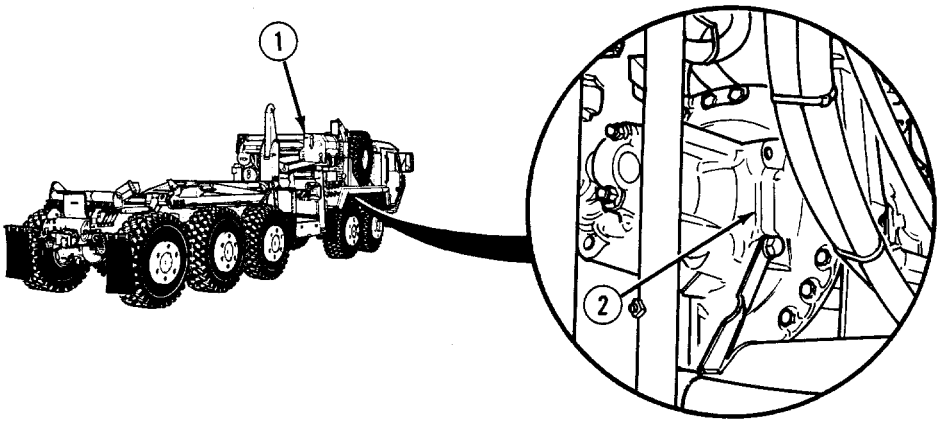
This section provides a basic explanation of major systems on the PLS. Detailed operation information is provided in Chapter 2.

1-13. ELECTRICAL SYSTEM.

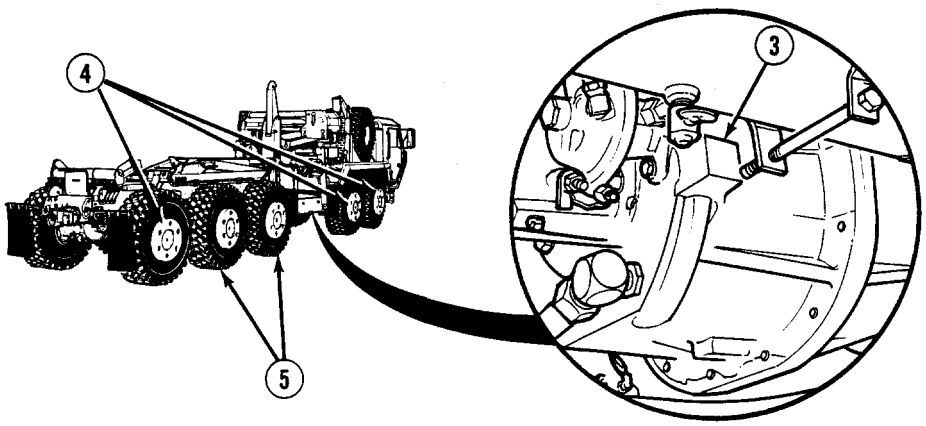


The 24 vdc electrical system is waterproof, has reverse polarity protection and incorporates a 12 vdc lighting subsystem. Manual resetting circuit breakers (1) are used throughout system and all circuits are identified. Voltages for the electrical system are indicated by voltmeters (2) located on the dash panel inside the drivers compartment (there are two gages, one for 12-volt and one for 24-volt). Circuit breakers located in the cab protect the main circuits. Electrical power is provided by four 12-volt series-parallel connected batteries (3). A heavy duty starting motor (4) is mounted on the engine flywheel housing and provides cranking power necessary for starting the engine. The 145 amp or 200 amp alternator (5) maintains battery charging and electrical equipment operation.

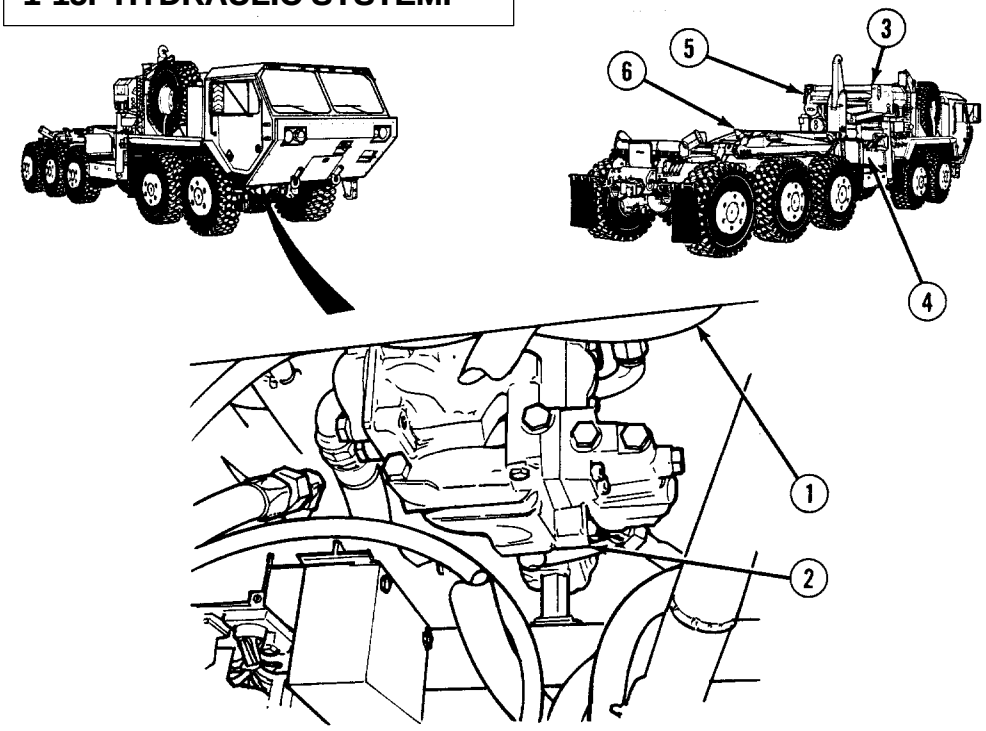
1-14. ENGINE AND DRIVETRAIN.



The truck is equipped with a eight cylinder, V type, two cycle, fuel injected, electronically controlled, turbocharged diesel engine (1). This engine is rated at 500 HP and has a five speed push button automatic transmission (2). The truck transfer case (3) has two speeds and a 30/70 differential. The truck has ten wheel drive capability with five driving axles. Axles No. 1, 2 and 5 (4), drive and steer. Axles No. 3 and 4 (5) are drive axles only.

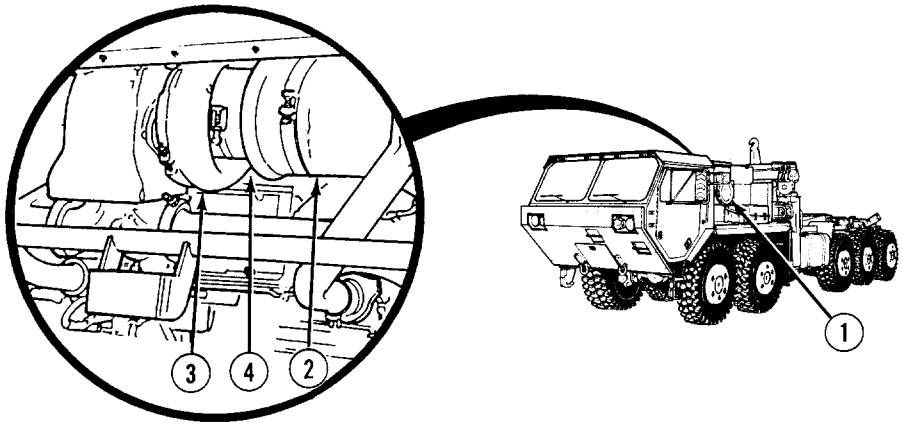


1-15. HYDRAULIC SYSTEM.



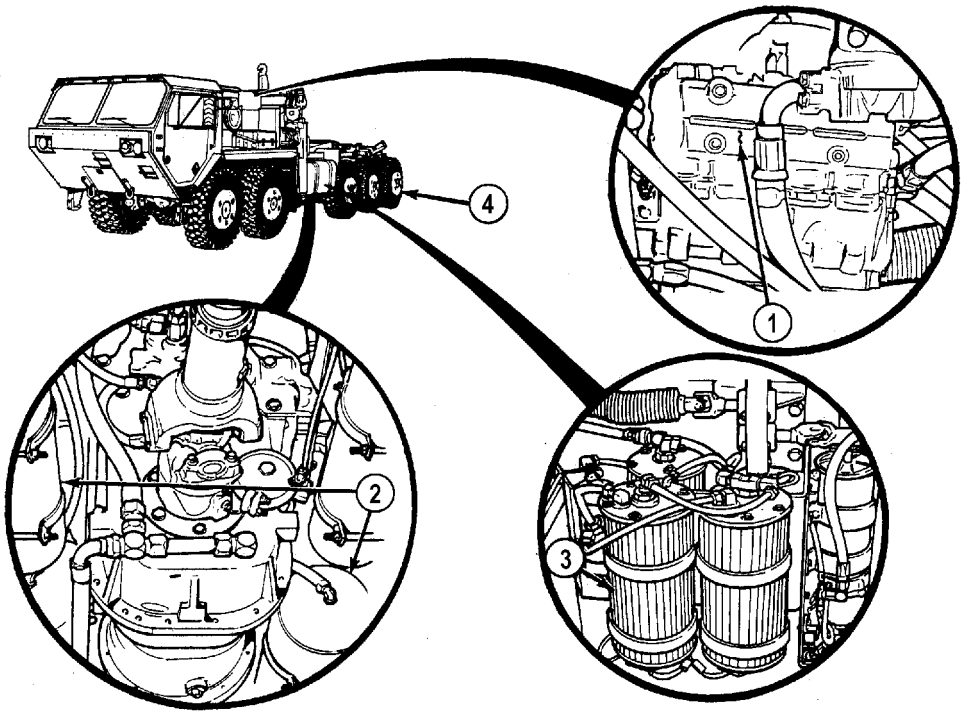
Two hydraulic pumps mounted in front of the engine provide power for two separate hydraulic systems. The front pump (1) provides power for the steering system. The rear pump (2) provides power for the cooling fan (3), SRW (4), MHC (5) and LHS (6). The pumps are connected together and appear like one unit.

1-16. AIR SYSTEM.

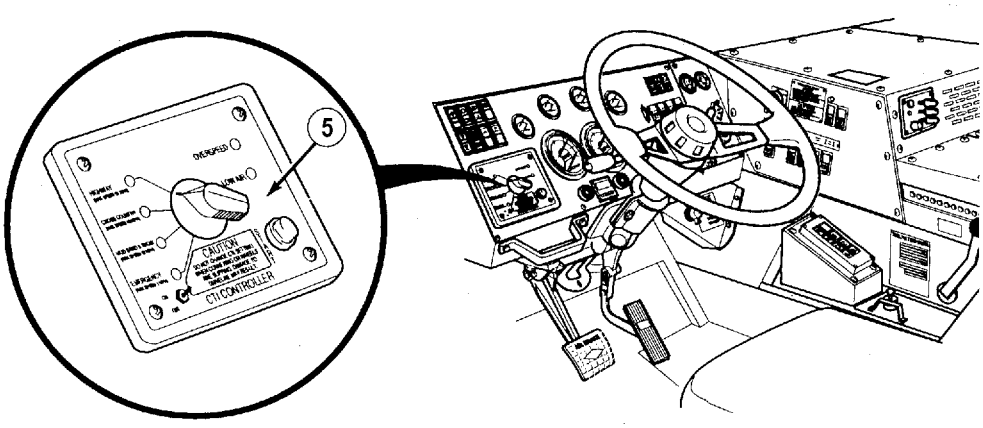


a. Air Intake System. The air intake system consists of a dry-type air cleaner (1), ducts (2), turbocharger (3) and engine blower (4).

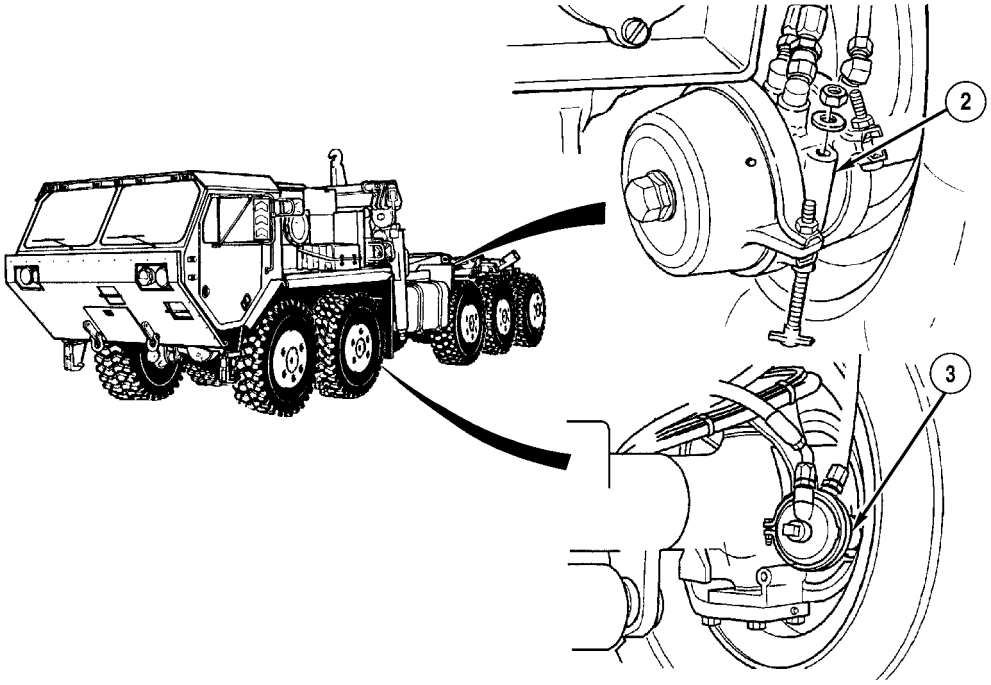
1-16. AIR SYSTEM (CONT).



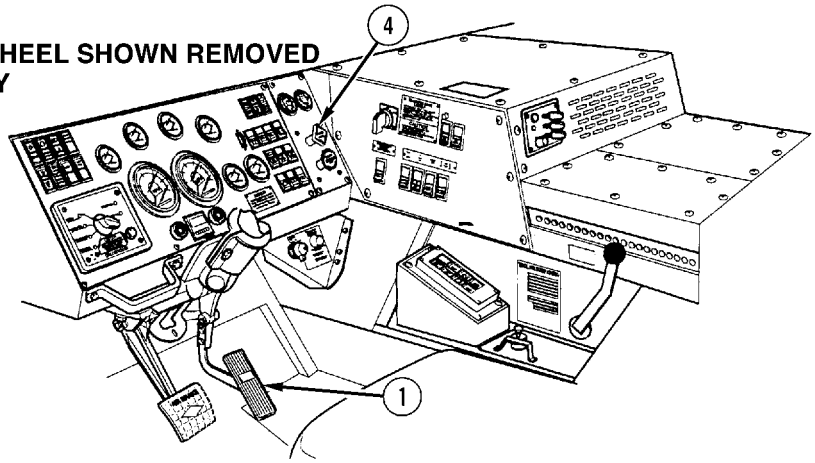
b. Air System. The air system consists of an engine-driven air compressor (1) and five air reservoirs (2). The air dryer (3) removes dirt and moisture from pressurized air. The brakes (4), CTIS and Axle No. 3 axle air suspension are operated by the air system.



c. Central Tire Inflation System (CTIS). The CTIS controller (5) is designed to adjust the pressure of all ten tires on the truck and control axle lock-up for different traction conditions.

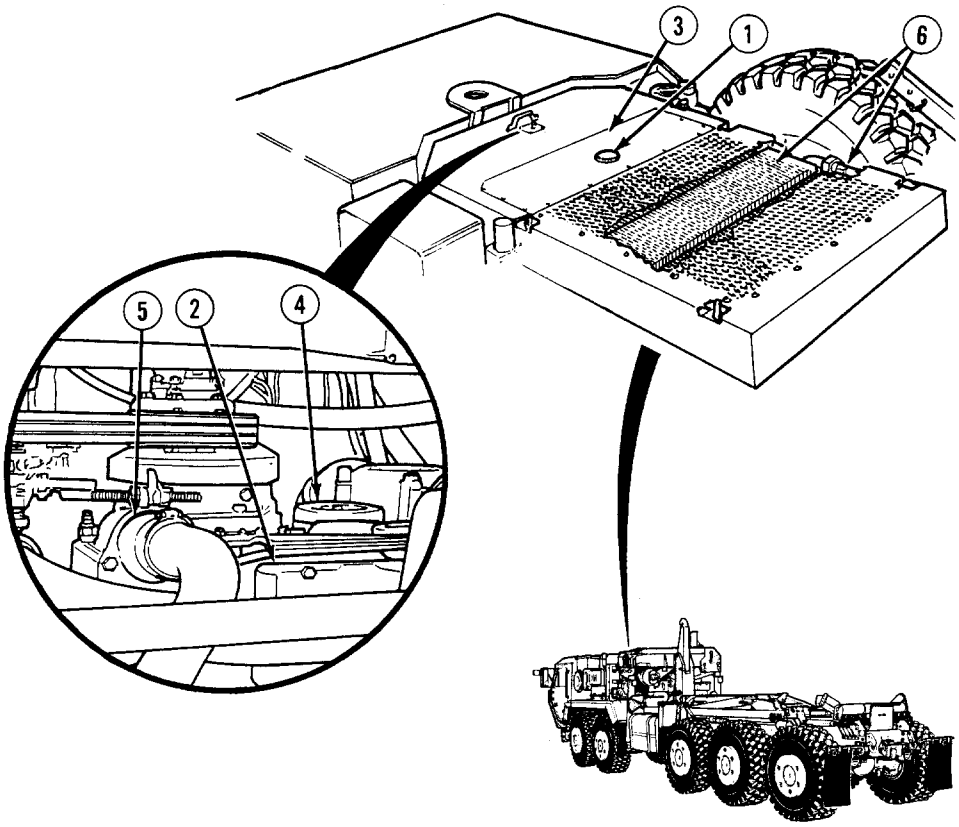


STEERING WHEEL SHOWN REMOVED FOR CLARITY



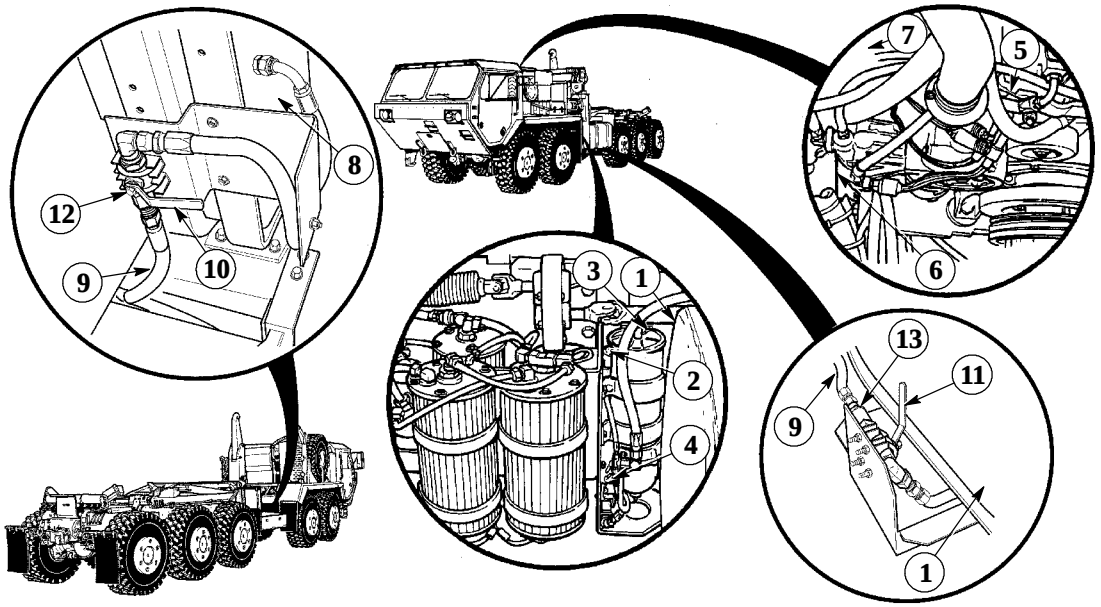
d. Brake System. The main brake system components consist of the service brake pedal (1), six brake chambers (2) on axles # 3, # 4 and # 5, eight brake chambers (3) on axles #1 and #2, and a parking brake valve (4). When the service brake pedal (1) is depressed, air is supplied to all the brake chambers (2) and (3), applying the service brakes. The parking brake valve (4), applies or releases the rear axle (parking) brakes. When air pressure in the brake system drops below 30 psi (207 kPa), the rear brake chambers (2) automatically apply.

1-17. COOLING SYSTEM.



The pressure-type cooling system protects the engine by removing the heat generated during combustion process. Pressure within the cooling system is limited by a pressure release in the radiator filler cap (1). The hot coolant flows from the engine (2) to the radiator tank (3) and through the radiator core where a stream of air removes heat. This stream of air is drawn through the core by the fan. A water pump (4) draws coolant from the radiator and pushes it through the engine, repeating the cooling process. Thermostats (5) mounted in each coolant outlet elbow, remain closed until the coolant approaches a predetermined temperature when they open. When coolant temperature drops below thermostat rating, the thermostats close. An air vent line between the radiator and water pump inlet removes any air trapped in the engine when the cooling system is being filled. A heat exchanger is mounted in the rear radiator tank for cooling the transmission oil. An air to oil cooler (6) mounted atop the core, cools the hydraulic oil.

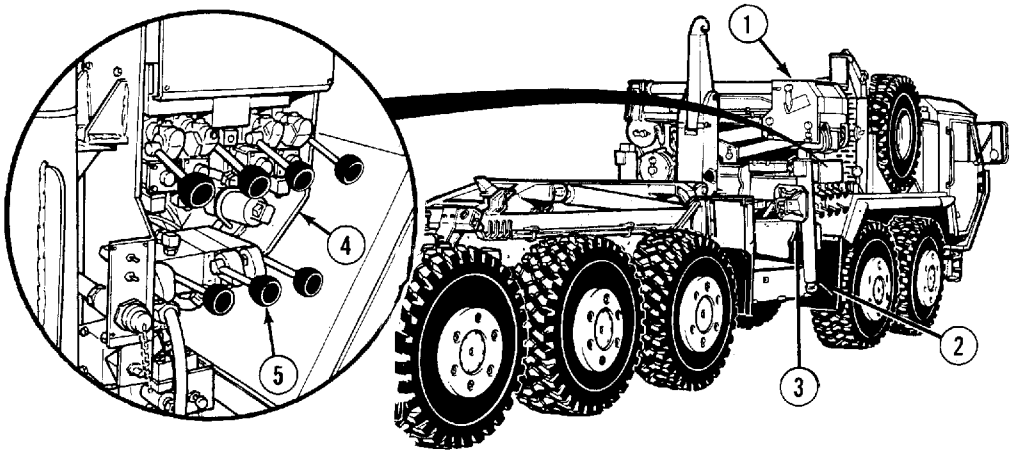
1-18. FUEL SYSTEM.



Fuel is drawn from the main fuel tank (1), passes through the electrical priming fuel pump (2) and the fuel/water separator (3). A fuel shut off valve (4) controls the flow of fuel to the engine. A mechanical fuel pump (5) pumps the fuel through the secondary filter (6) to the engine (7). Excess fuel from the engine is returned to the main fuel tank through the return line. The fuel/water separator removes water and large solid particles from the fuel. The smaller particles are removed by a secondary filter before they can enter the engine fuel injectors.

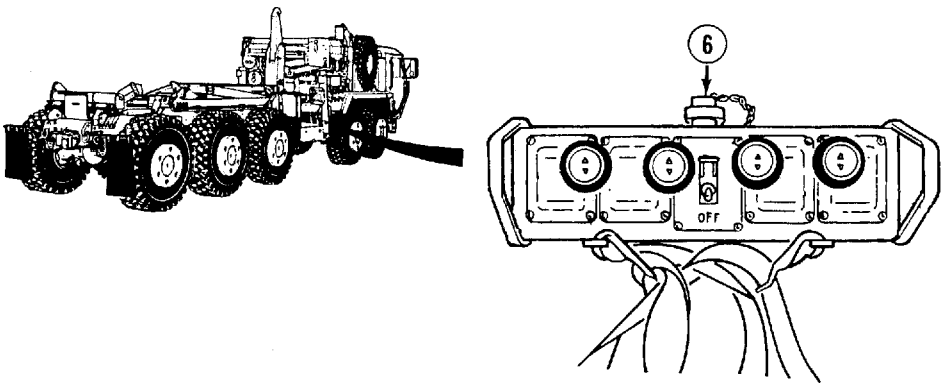
Trucks equipped with an auxiliary fuel tank (8) will bottom fill the main fuel tank (1) through a crossover fuel line (9) found under the truck. Shutoff valves (10) and (11) between the tanks shut off fuel flow during filling and side slope operations. Check valves (12) and (13) prevent fuel spilling if crossover line is damaged.

1-19. MATERIAL HANDLING CRANE (MHC).



a. Crane. The truck MHC (1) is fully hydraulic and is powered by the truck hydraulic system. The MHC is capable of lifting up to 5,400 lb. (2,449 kg) load at a 16.5 ft. (5 m) radius and a 3,900 lb. (1,770 kg) load at a 22 ft. (6.7 m) radius. The crane can load/unload pallets from either side of the truck. Truck stability and leveling is accomplished with the left and right side hydraulically operated outrigger jacks (2). Jacks can level the truck when it is inclined up to a seven percent side slope. The outrigger pads (3) are attached to the outrigger jacks by means of retaining pins and are stowed on the crane base. The pads swivel 360 degrees when installed on the jacks. Safety switches are installed in the outrigger jacks to prevent crane operations until the outrigger jacks are set in place.

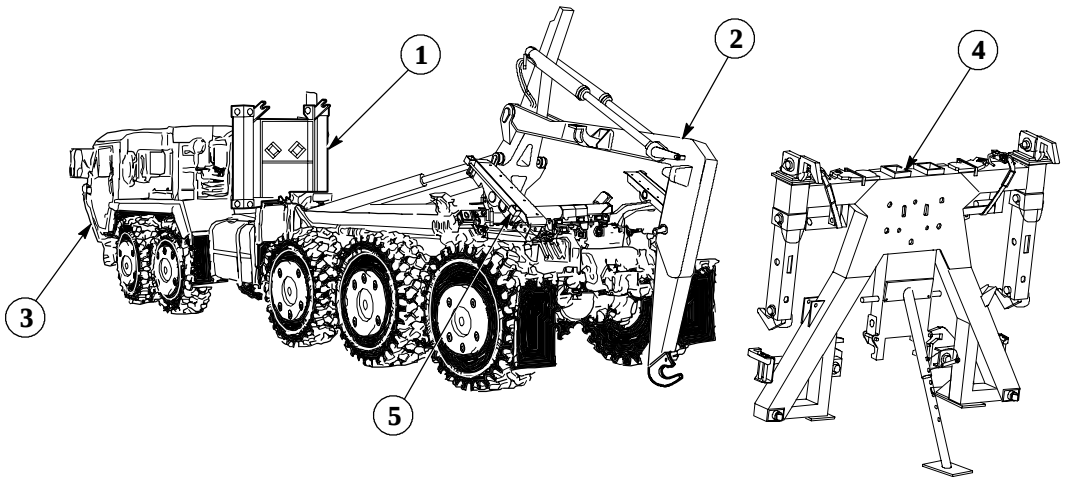
b. Fixed Controls. All crane controls and indicators (4) are located on the passenger side of the truck. The controls are accessible to the operator while standing on the ground. Control valves, both crane and outrigger jack, automatically return to the neutral position should operator inadvertently or intentionally release control. The outrigger jacks (2) can be controlled from either side of the truck with outrigger jack controls (5). Outrigger jack manual control valves are also duplicated on the driver's side of truck.



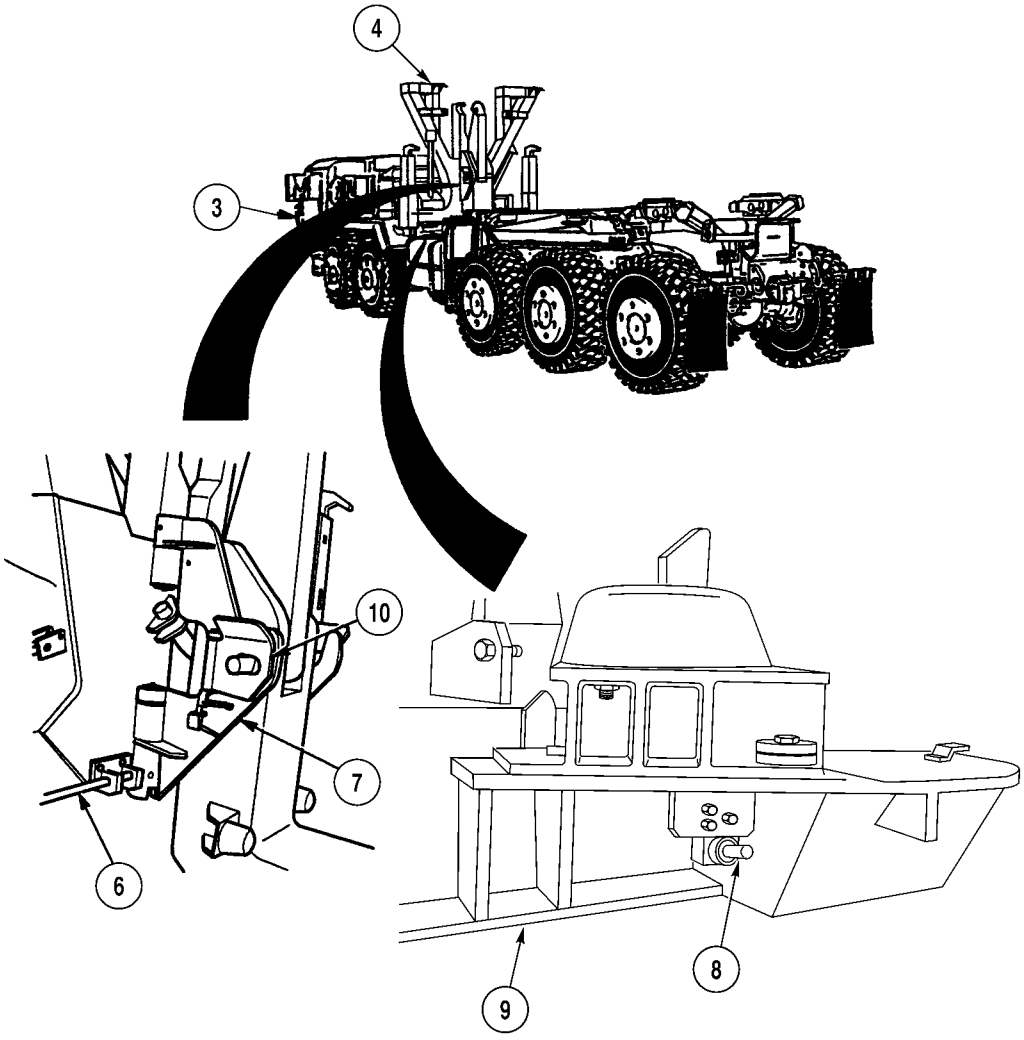
c. Remote Control. The remote control system (6) is designed to operate the crane while standing away from the truck. The operator can operate the remote control anywhere within 35 ft. (10.7 m) of the crane base. The remote control is provided with an emergency shutdown capability and designed so that when activated, all remote control crane functions cease and engine speed is reduced to idle. The remote control functions match the control levers on the fixed control excluding mast and outrigger jack controls.

d. Overload Shutdown. The crane is provided with an overload shutdown which prevents structural overloading. Two block and overload conditions are sensed through line-pull of the hoist. A preprogrammed microprocessor that is constantly comparing boom angle, boom length and hoist line pull, activates solenoid valves to prevent telescope out, lift up, lift down, and hoist up functions when unit is overloaded or two-blocked. During an overload condition the crane's functions cease except for hoist down, telescope in and swing in either direction. The outrigger jack and mast functions are still operational.

1-20. CONTAINER HANDLING UNIT (CHU).

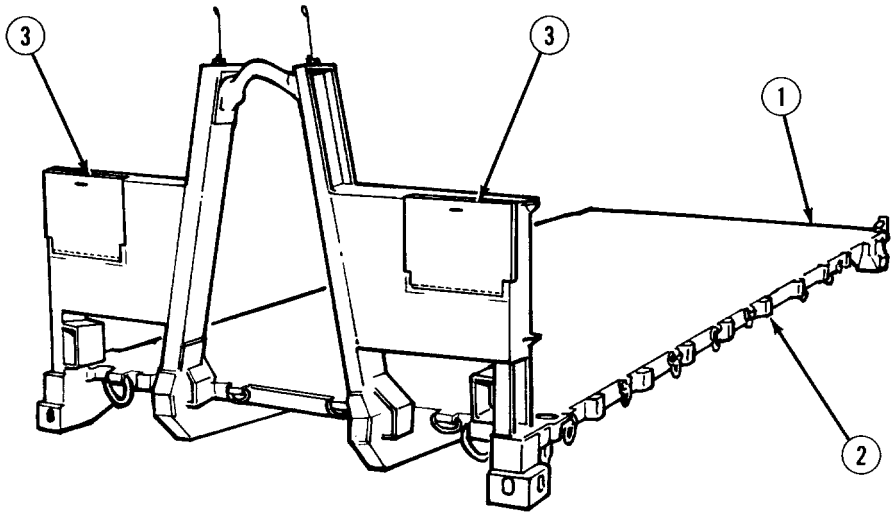


a. Container Handling Unit (CHU). CHU (1) utilizes the LHS (2) to load and unload ISO containers onto the truck (3). The CHU consists of a lifting frame (4) which is hooked by the LHS and is attached to a ISO container. The rear slider assembly (5) guides the container onto the truck (3). Operation between container mode and flatrack is available. Safety switches are installed to prevent opposing operations. Maximum permissible gross container weight is 35,000 lbs (15,890 kg).



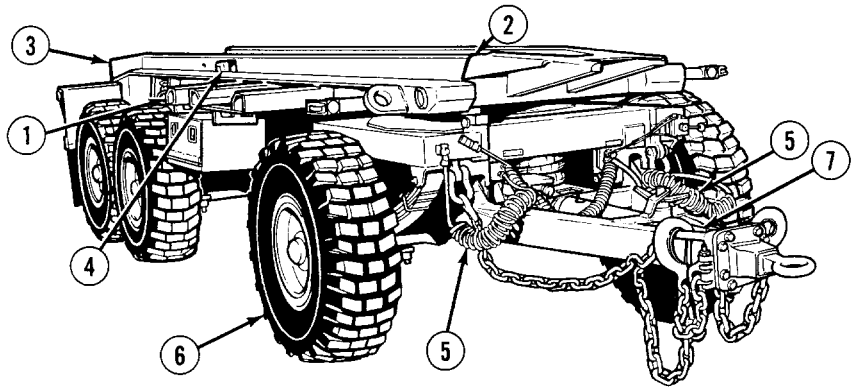
b. Fixed Controls. CHU controls for stowing and unstowing lifting frame (4) are located on both sides of truck (3). Flipper lock pin handles (6) are located on the lifting frame (4) and allow locking the flipper brackets (7) in open and closed position. Air control valves (8) located on front support assemblies (9) rotate flipper brackets and flipper bracket lock plates (10) from the open and closed position.

1-21. FLATRACK (FR).



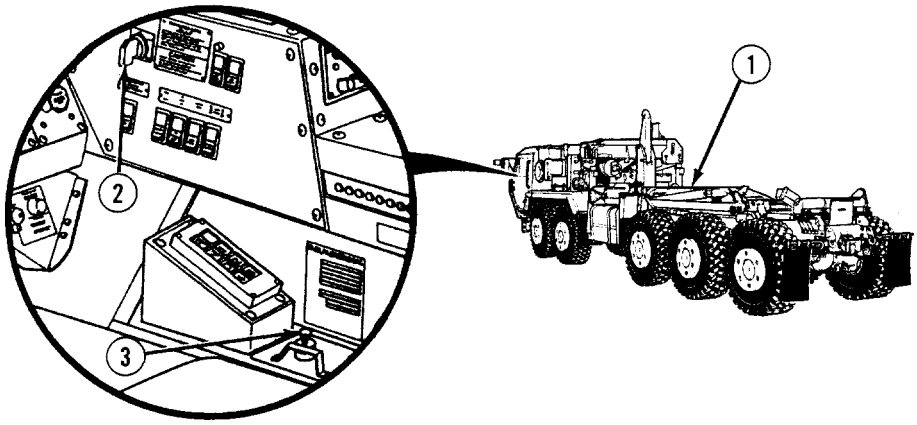
The FR (1) M1077 accommodates a 33,000 lbs. (15 metric tons) payload and M1077A1 accommodates a 32,300 lbs. (14.6 metric tons) payload during all modes of transportation and during all specified load/unload operations. During Load Handing System (LHS) load/unload operations the FR can accommodate a full payload. The M1077 has an empty weight of 3,200 lbs. (1,453 kg) and M1077A1 has an empty weight of 3,900 lbs. (1,771 kg) both without side boards. The FR can accommodate palletized, break bulk and 20 ft. (6.1 m) ISO container payloads. Stake pockets (2) are used to contain and hold cargo side rails. Stowage boxes (3) are used for storing straps, cargo nets, etc.

1-22. PALLETIZED LOAD SYSTEM TRAILER (PLST).



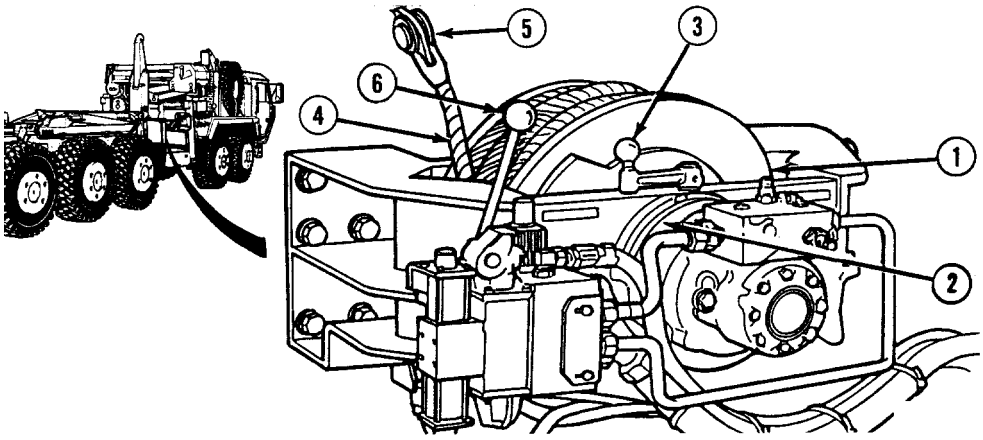
The PLST (1) is a three axle trailer designed to carry a Flatrack (FR) with a 16.5 ton payload. It can accommodate both full and partial loaded flatracks. The guides (2) laterally position the FR on the trailer rear stops (3). These stops prevent FR from sliding rearward. The FR locks (4) engage and secure the FR to the PLST. The intervehicular connecting cables (5) attach to the towing truck. The spare tire carrier is behind the first axle (6). The PLST is equipped with a two position adjustable drawbar (7).

1-23. LOAD HANDLING SYSTEM (LHS).



The truck is equipped with a LHS (1) used to load/unload flatracks. The LHS is fully hydraulic, powered by the truck hydraulic system, and is operated by a hydraulic selector switch (2) and a joystick (3), located to driver's right in the truck cab.

1-24. SELF-RECOVERY WINCH KIT (SRW).



When specified, the truck is equipped with a SRW (1) which is capable of forward and rearward deployment. The winch is equipped with a holding brake (2) to safely deploy and hold a full rated load of winch. The winch brake is automatic and is fully engaged anytime the winch is stopped or not in use. It is fully released during operation. A clutch (3) allows for the manual unspooling of the winch. The cable (4) is equipped with a clevis end (5). The winch is controllable from the driver's position with cab controls and at the winch itself with a manual control lever (6). All controls revert to neutral when released.

CHAPTER 2

OPERATING INSTRUCTIONS

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Section I. DESCRIPTIONS AND USE OF OPERATOR'S CONTROLS AND INDICATORS

2-1. PREPARATION FOR USE.

WARNING

This truck has been designed to operate safely and efficiently within the limits specified in this TM. Operation beyond these limits is prohibited IAW AR 70-1 without written approval from the Commander, U.S. Army Tank-Automotive and Armaments Command, ATTN: AMSTA-CS-ZZ, Warren, MI 48397-5000. Failure to comply could result in injury or death to personnel.

When a truck is first received by the using organization, it is the responsibility of the officer-in-charge to determine whether it has been properly prepared for service by the supplier. It is also the responsibility of the officer-in-charge to be sure the truck is in condition to perform its functions. Unit Maintenance will provide any additional service required to bring the truck to operating standards. Before operating the truck, the operator must become familiar with the truck controls and indicators as described in this chapter.

2-2. KNOW YOUR CONTROLS AND INDICATORS.

This section shows the location and describes the use of controls and indicators used to operate M1074 and M1075 series vehicles. Controls and indicators described in this section are the same for all vehicles, except where otherwise indicated.

Know location and proper use of every control and indicator before operating the vehicle. Use this section to learn about each control and indicator to be used. Separate illustrations with keys are provided for each group of controls and indicators.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS.

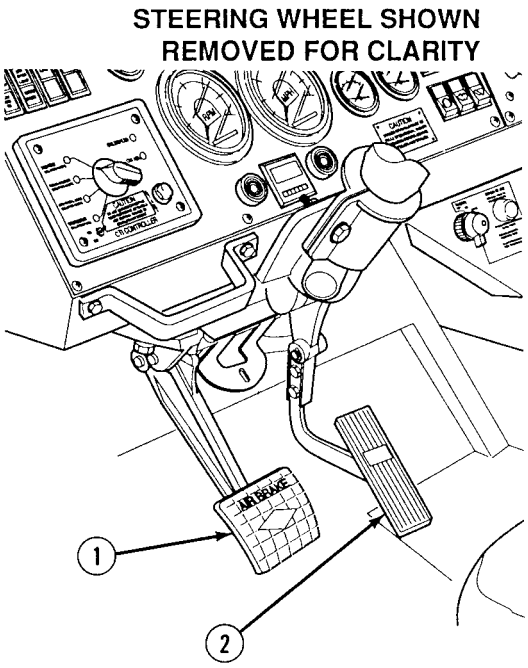


Figure 2-1. Cab-Mounted Foot Controls

Key	Control or Indicator	Function
1	Service Brake Pedal	Applies service brakes. If truck is properly coupled to a trailer, trailer service brakes will operate when truck service brakes are applied.
2	Throttle Control	Controls engine speed.

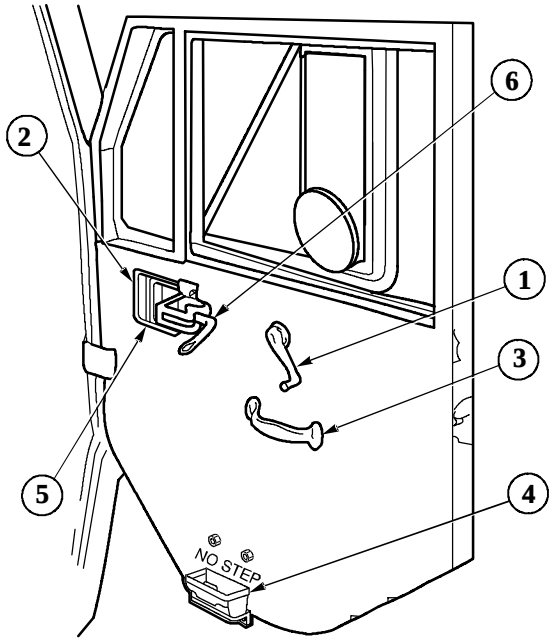


Figure 2-2. Cab Door Controls

Key	Control or Indicator	Function
1	Cab Door Window Glass Crank	Rotate left crank counterclockwise (CCW) to lower left window glass; clockwise (CW) to raise left window glass. Rotate right crank clockwise to lower right window glass; counterclockwise to raise right window glass.
2	Cab Door Inside Handle (one on each door)	Pull to open cab door from inside of cab.
3	Cab Door Pull Handle (one on each door)	Pull to close cab door from inside of cab.
4	Lower Rifle Mount (right side only)	Holds butt of rifle.
5	Top Rifle Mount (right side only)	Holds hand guard of rifle.
6	Rifle Mount Handle (right side only)	Secures upper hand guard of rifle.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

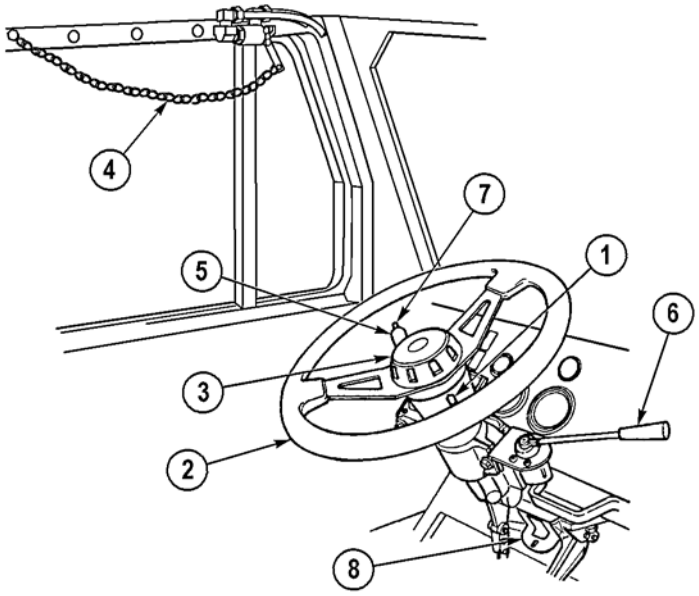


Figure 2-3. Steering Column Mounted Controls

Key	Control or Indicator	Function
1	Emergency Flasher Control	To turn on hazard warning flashers, push button in. To turn hazard warning flashers off, pull button out.
2	Steering Wheel	Controls direction of truck.
3	Horn Button	Sounds electric horn when pressed.
4	Horn Chain (If Equipped)	Sounds air horn when pulled.
5	Turn Signal Lever	Push up to signal right turn. Pull down to signal left turn. When turn is completed the lever will automatically return to off position.
6	Trailer Handbrake Control	Applies and releases trailer service brakes only (separate from truck service brakes). Not used during normal operation. Can be used for coupling and uncoupling trailers without spring brakes.
7	Dimmer Button	Press button to raise or lower headlight beams. High beam indicator on dash will light (blue) when high beams are on.
8	Steering Wheel Lock	Provides attachment point for padlock to prevent steering.

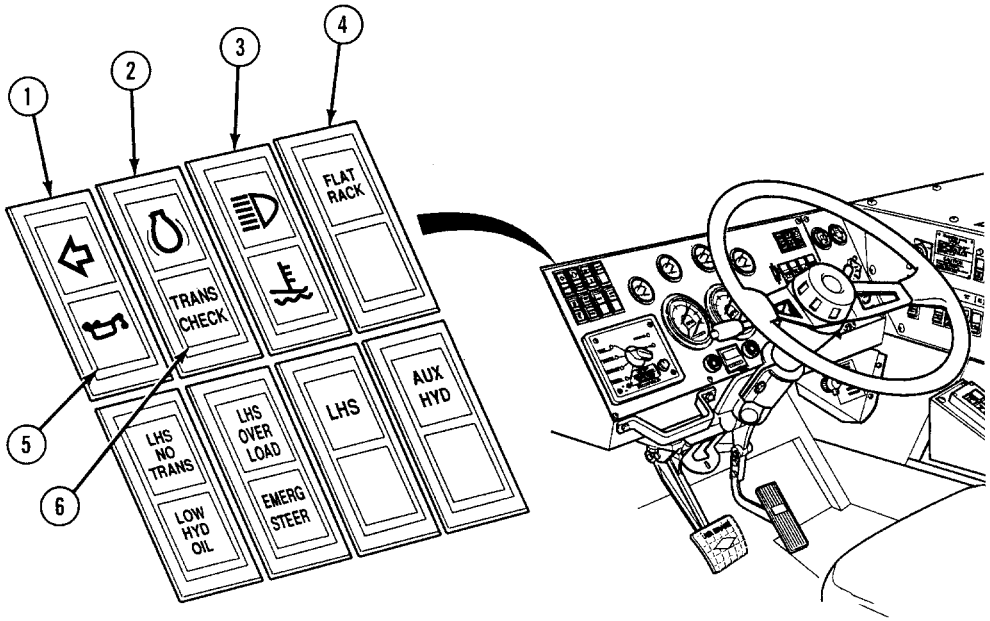


Figure 2-4. Instrument Panel Controls and Indicators

Key	Control or Indicator	Function
1	Left Turn Indicator	Flashes (green) when the left turn signal is on.
2	Engine Brake	Lights (green) when the engine brake on-off switch is in on position.
3	High Beam Indicator	Lights (blue) when the truck headlights are on high beam.
4	Trailer Flatrack Unlocked	Lights (red) when the trailer flatrack is not locked.
5	Engine Low Oil Pressure	Lights (red) when the engine oil pressure is below 5 psi (34 kPa).
6	Transmission Check	Lights (yellow) when the transmission fluid temperature is above 270 degrees F (132 degrees C).

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

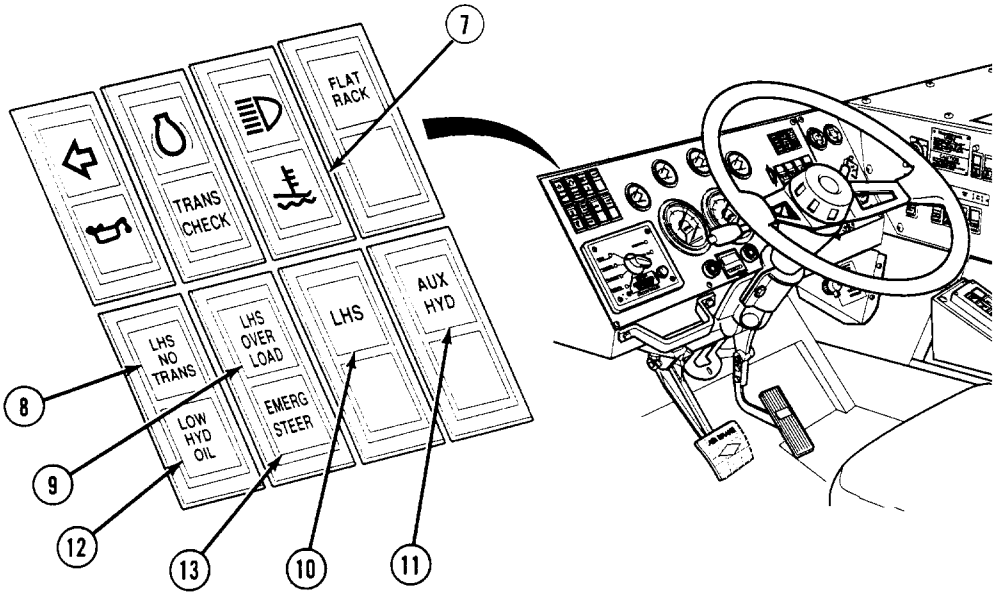


Figure 2-4. Instrument Panel Controls and Indicators - CONT.

Key	Control or Indicator	Function
7	High Water Temperature	Lights (red) when the engine coolant temperature is above 230 degrees F (110 degrees C).
8	LHS NO TRANSIT	Lights (red) when the LHS is not correctly stowed on the truck.
9	LHS OVERLOAD	Lights (yellow) when there is a warning of overload 34,500 to 35,000 lb. (15,663-15,890 kg).
10	LHS	Lights (green) when the LHS is activated, in AUTO, MAN H.A. and MAN M.F. mode.
11	AUX HYD	Lights (green) when the auxiliary hydraulic is in use.
12	LOW HYD OIL	Lights (red) and buzzer will sound when the auxiliary hydraulic fluid level is below 25.75 gal. (97.46 L).
13	EMERG STEER	Lights (red) when the emergency steering system is activated.

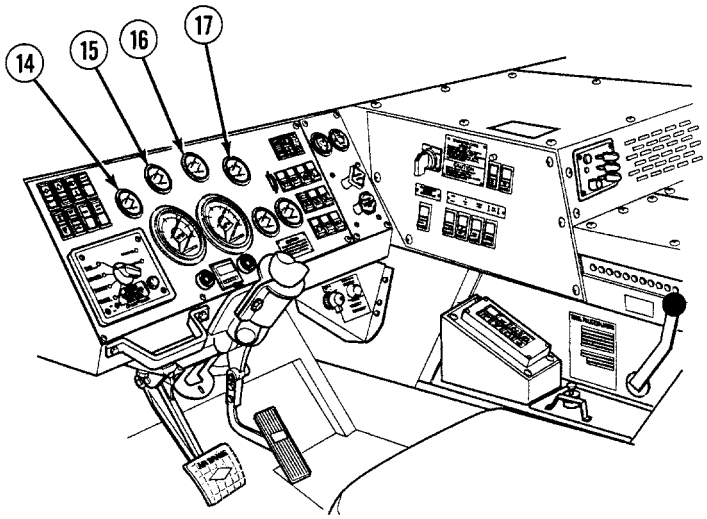


Figure 2-4. Instrument Panel Controls and Indicators - CONT.

Key	Control or Indicator	Function
14	OIL PRESS Gage	Shows the engine oil pressure (in psi and kPa).
15	WATER TEMP Gage	Shows the engine coolant temperature (in degrees F and degrees C).
16	TRANS TEMP Gage	Shows the transmission fluid temperature (in degrees F and degrees C).
17	FUEL Gage	Shows the amount of fuel in main fuel tank.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

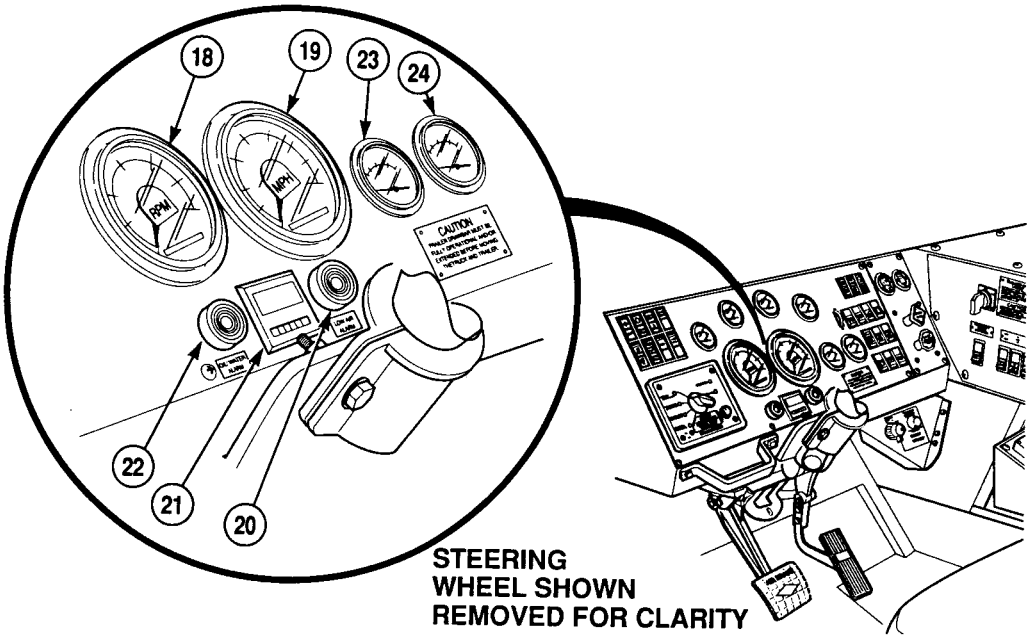


Figure 2-4. Instrument Panel Controls and Indicators - CONT.

Key	Control or Indicator	Function
18	Tachometer/Hourmeter	Shows the engine operating speed (rpm x 100) and total operating time (HOURS).
19	Speedometer/Odometer	Shows the truck traveling speed (in mph and km/h) and total miles traveled.
20	Low Air/Hydraulic Oil Alarm	Intermittent buzzer sounds when the air system pressure is below 60 psi (414 kPa) or the hydraulic oil level is below 25.75 gal. (97.461).
21	Odometer (kilometer)	Shows the total kilometers traveled.
22	Oil/Water Alarm	Steady buzzer sounds when the engine oil pressure is below five psi (34 kPa) or when engine coolant temperature is above 230 degrees F (110 degrees C).
23	Voltmeter (12V)	Shows the state of charge of the batteries and voltage level in the 12-volt system (13-15v).
24	Voltmeter (24V)	Shows the state of charge of the batteries and voltage level in the 24-volt system (26-30v).

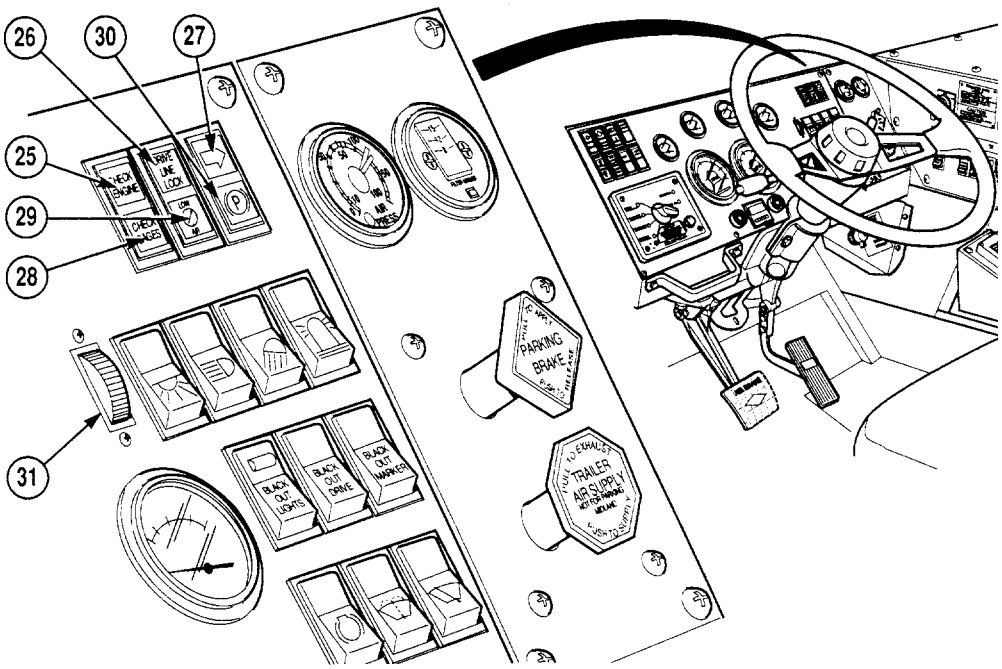


Figure 2-4. Instrument Panel Controls and Indicators - CONT.

Key	Control or Indicator	Function
25	Check Engine	Lights (orange) to indicate an engine problem.
26	Drive Line Lock	Lights (yellow) to indicate drive line lockup when the transfer case is in low range and the CTIS is set at emergency position.
27	Right Turn Indicator	Flashes (green) when the right turn signal is on.
28	Check Gages	Lights (orange) when a problem exists in the engine that may cause damage. If light comes on check the gages.
29	Low Air	Lights (red) when the system air pressure is below 60 psi (414 kPa).
30	Parking Brake Indicator	Lights (red) when the parking brake is on.
31	Rheostat Switch	Controls brightness/dimness of the instrument panel lights.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

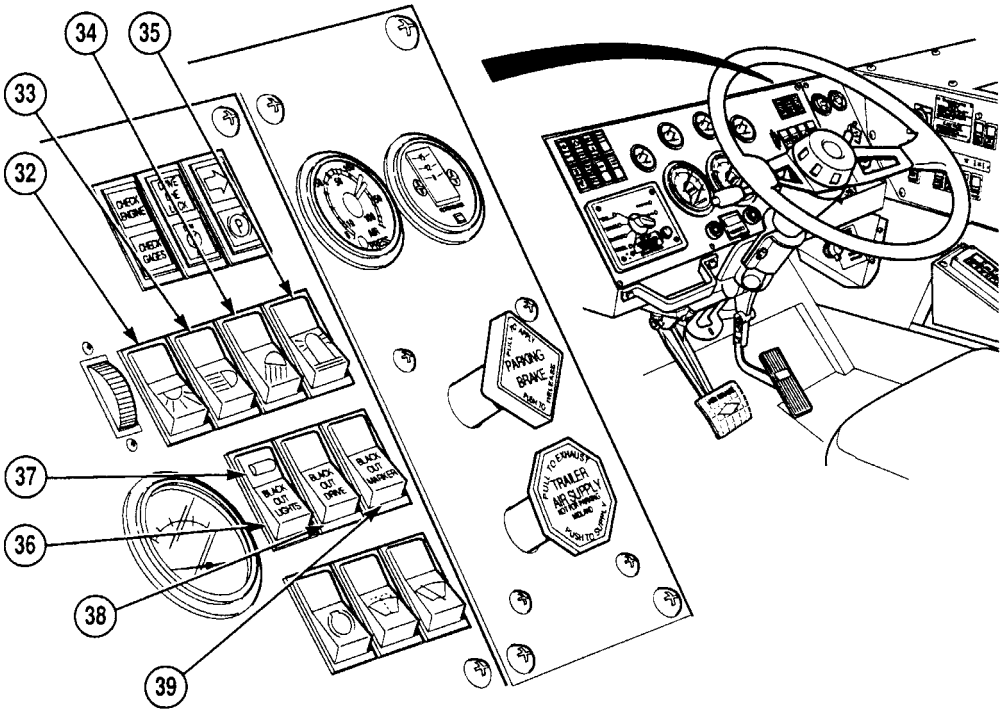


Figure 2-4. Instrument Panel Controls And Indicators - CONT.

Key	Control or Indicator	Function
32	Dome Light Switch	Turns the dome light on and off.
33	Headlight/Clearance Light Switch	Turns the headlights and clearance lights on and off. Center position is clearance lights and down position is service drive.
34	Work Light Switch	Provides the power to work lights.
35	Beacon Light Switch	Turns the beacon light on and off.
36	Blackout Light Selector Switch	Selects between normal and blackout mode for night driving under blackout conditions. The vehicle's back-up alarm will automatically deactivate in the blackout mode.
37	Blackout Light Switch Lock	Must be pushed down while operating the switch.
38	Blackout Drive Switch	Turns the blackout drive lights on and off.
39	Blackout Marker Switch	Turns the blackout marker lights on and off.

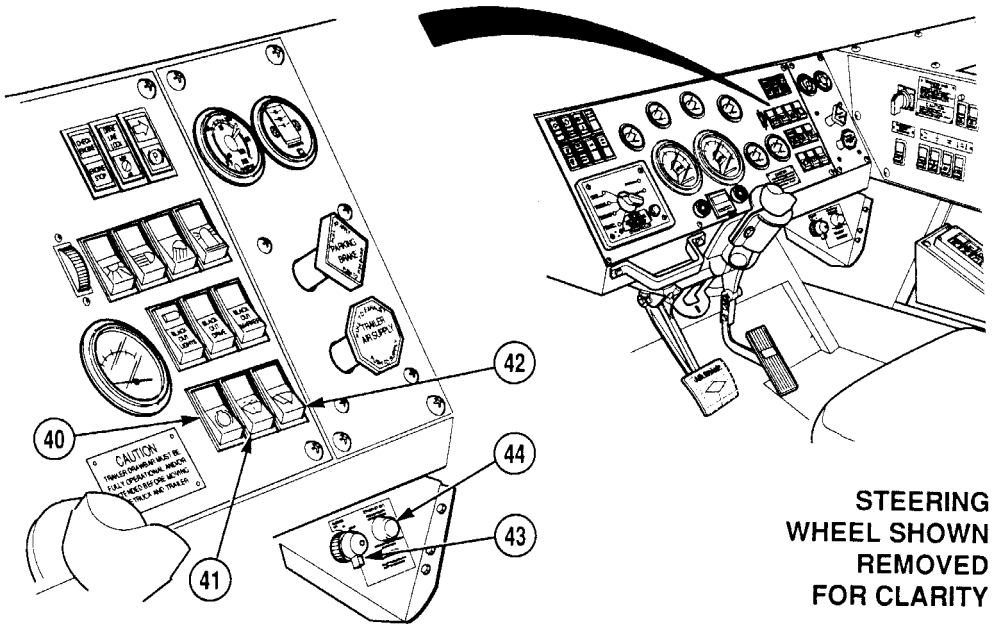


Figure 2-4. Instrument Panel Controls and Indicators - CONT.

Key	Control or Indicator	Function
40	Engine Brake Switch	Turns on or shuts off the electric power to the engine brake. Center position is LOW and down position is HIGH.
41	Windshield Washer Switch	Controls the spray of cleaning fluid on the windshield.
42	Windshield Wiper Switch	Controls operation of the windshield wipers. Center position is LOW, down position is HIGH.
43	Engine ON/OFF/START Switch	Straight up is OFF position; ON position operates the electrical system. START position operates the engine cranking circuit.
44	Ether Start Switch	Injects ether into the engine intake manifold for cold weather starting.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

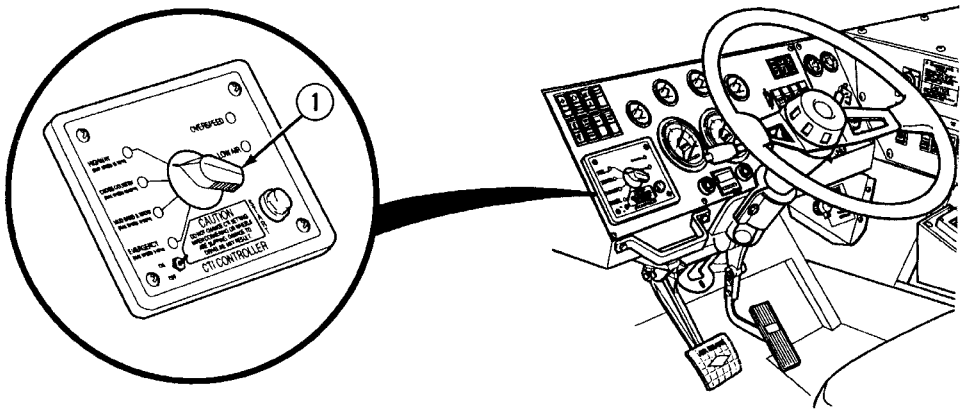


Figure 2-5. CTIS Controller Controls and Indicators

Key	Control or Indicator	Function
1	Rotary Selection Switch (CTIS)	**CAUTION** • Do not change CTIS settings when cornering or wheels are slipping. Damage to drive line may result. • CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressure may not match driving speeds, resulting in unsafe driving conditions or tire damage. **NOTE** • The rotatory selection switch will still operate the drive line functions even if the CTIS ON/OFF switch is set to OFF. • If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated.

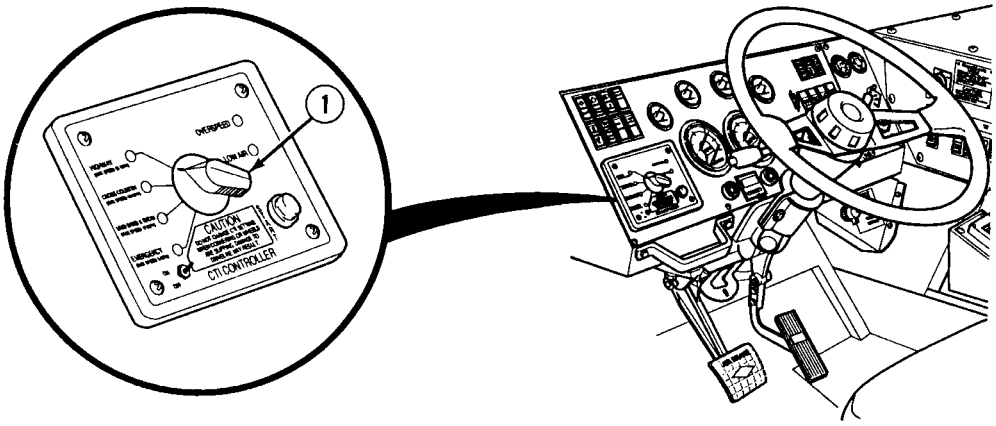


Figure 2-5. CTIS Controller Controls and Indicators - CONT.

Key	Control or Indicator	Function
1	Rotary Selection Switch (CTIS) - (Continued)	Selects one of four tire pressures and drive line lock up for maximum traction and minimum tire wear under various conditions and speed limits as follows: • Highway - 55 mph (88 km/h) • Cross Country - 40 mph (64 km/h) • Mud, sand, and snow - 12 mph (19 km/h) • Emergency - five mph (8 km/h) **CAUTION** • Do not change CTIS settings when cornering or wheels are slipping. Damage to drive line may result. • CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressure may not match driving speeds, resulting in unsafe driving conditions or tire damage.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

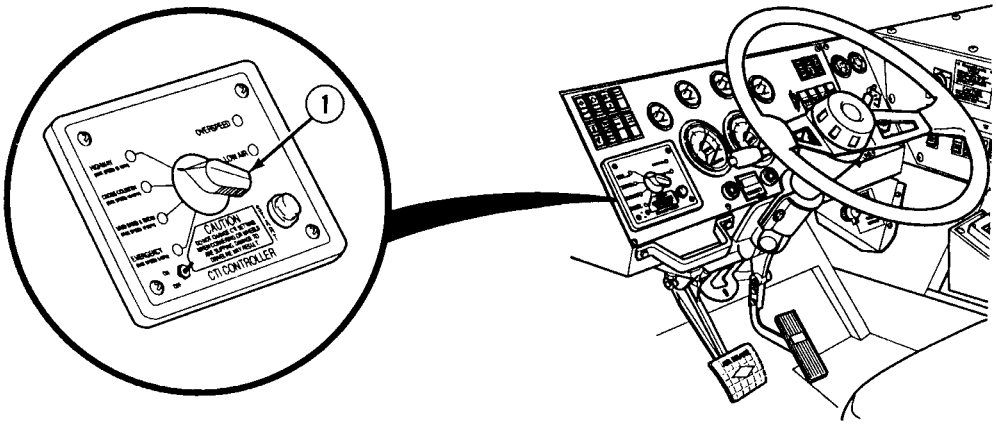


Figure 2-5. CTIS Controller Controls and Indicators - CONT.

Key	Control or Indicator	Function
1	Rotary Selection Switch (CTIS) - (Continued)	**NOTE** • The rotatory selection switch will still operate the drive line functions even if the CTIS ON/OFF switch is set to OFF. • If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated. A green LED at each of the four positions will stay lit continuously if the CTIS and driveline lockup are in proper operating mode. Slow flashing indicates acceptable change. Rapid flashing indicates unacceptable operating parameters and requires corrective action by the operator.

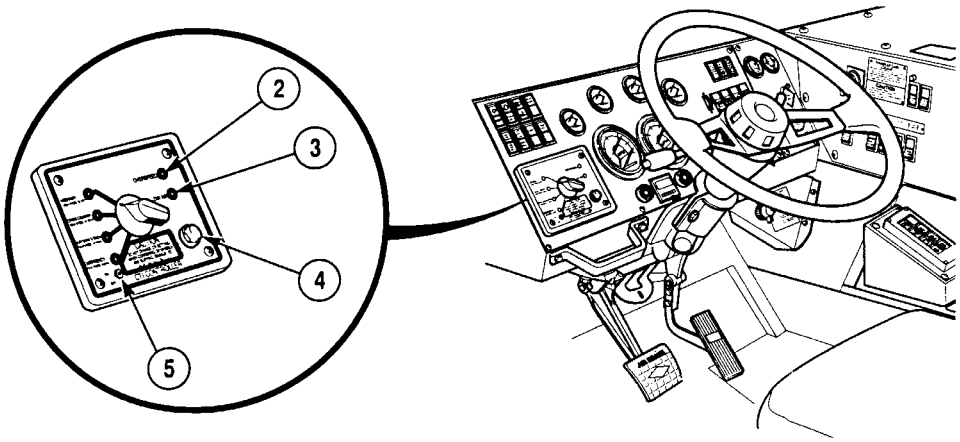


Figure 2-5. CTIS Controller Controls and Indicators - CONT.

Key	Control or Indicator	Function
2	Overspeed Indicator	Lights (amber) when truck average speed for one minute exceeds the speed limit for rotary selector switch (CTIS) setting.
3	Low Air Indicator	Lights solid (red) to warn of low pressure in truck air system. This condition causes CTIS to shut down giving truck brake system priority to the available air pressure. CTIS will automatically resume operation when air pressure builds up to about 110 psi (758 kPa). Light will flash if CTIS has detected a leak in the tires, hoses, fittings, air connections, wheel seals, or is malfunctioning.
4	Start Switch	Press (and hold for one second) this push button switch to start operation of CTIS.
5	ON/OFF Switch	Turn switch to ON position for normal CTIS operation. Driveline lockup function will still operate with switch in OFF position.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

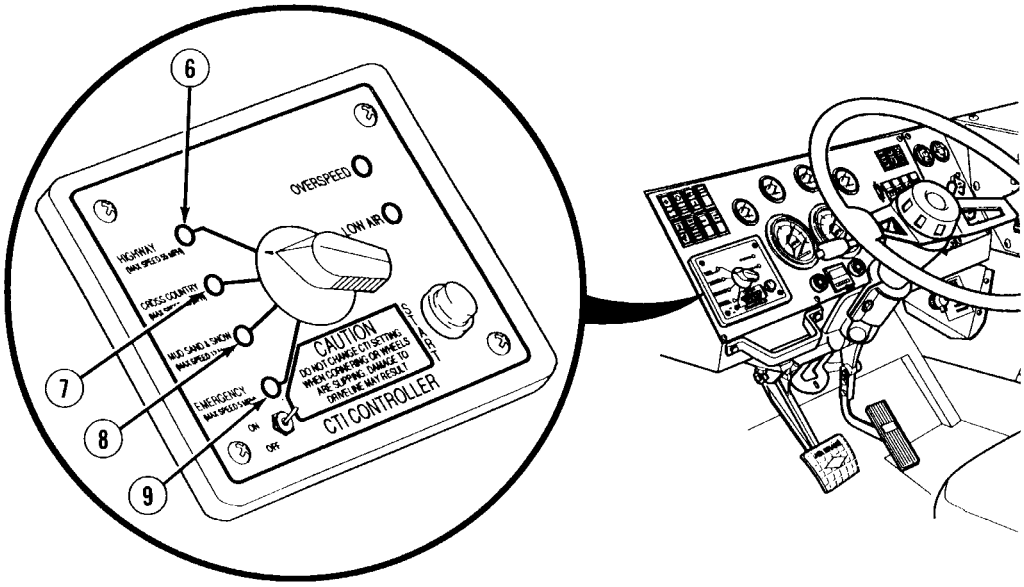


Figure 2-5. CTIS Controller Controls and Indicators - CONT.

Key	Control or Indicator	Function
6	HIGHWAY	Inflates tires to HIGHWAY pressure (Para 2-24).
7	CROSS COUNTRY	Inflates tires to CROSS COUNTRY pressure (Para 2-24).
8	MUD, SAND AND SNOW	Inflates tires to MUD, SAND AND SNOW pressure (Para 2-24). Interaxles differentials will lock causing Axles No. 1 and 2 to turn at the same rate and Axles No. 3, 4 and 5 to turn at the same rate.
9	EMERGENCY	Inflates tires to EMERGENCY pressures (Para 2-24). Interaxle differentials will lock, causing Axles No. 1 and 2 to turn at the same rate and Axles No. 3, 4 and 5 to turn at the same rate. Side to side differential lock up will also occur if the transfer case lever is set to LOW range.

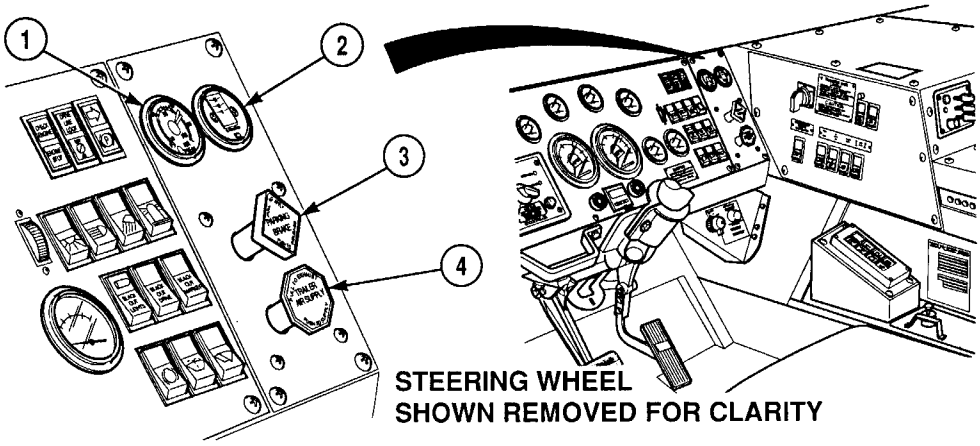


Figure 2-6. Air Panel Controls and Indicators

Key	Control or Indicator	Function
1	Air Pressure Gage	Shows the air pressure (in psi and kPa) in both sections of the air brake system. Green needle shows the front brake air reservoir pressure. Red needle shows the rear brake air reservoir pressure.
2	Air Filter Restriction Indicator	Shows the condition of the air filter. Vacuum in H_20 window shows degree of restriction. Indicator should read less than 20 in. (5.0 kPa) for normal operation. If indicator latches at 20 in. (5.0 kPa) during operation, truck may continue to operate until mission is completed. Air filter must be replaced prior to next mission. Push the button to reset.
3	PARKING BRAKE Control	Push to release the truck brakes, pull to apply the truck brakes. Automatically applies the parking brakes if air pressure goes below 35 psi (241 kPa).
4	TRAILER AIR SUPPLY Control	Push to supply air to the trailer air system. Pull to shut off the trailer air.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

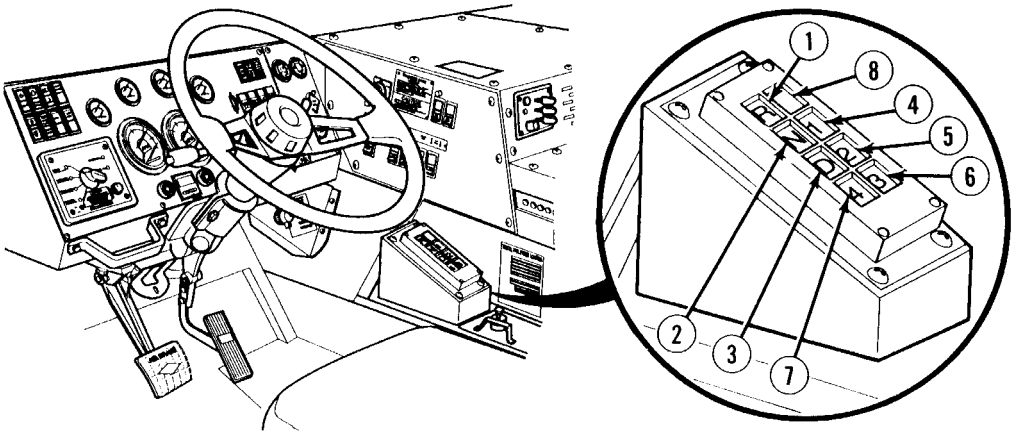


Figure 2-7. Transmission Range Selector Controls

Key	Control or Indicator	Function
1	R	Reverse for backing the truck.
2	N	Neutral, use this position when starting the engine, parking the truck, or if the truck is left unattended while the engine is running with the parking brake applied during crane operation.
3	D	Drive, use this position for all normal driving conditions. The transmission will upshift and downshift automatically. Transmission will start in second gear (low range only) or first gear (high range only).
4	1	Low gear hold, provides the greatest torque and maximum engine braking effect.
5	2	Second gear hold, use when pulling through mud or snow.
6	3	Restricts upshifts to no higher than 3rd gear.
7	4	Restricts upshifts to no higher than 4th gear.
8	DO NOT SHIFT	Indicates (lights red) the operating condition under which shifting would cause damage to the equipment.

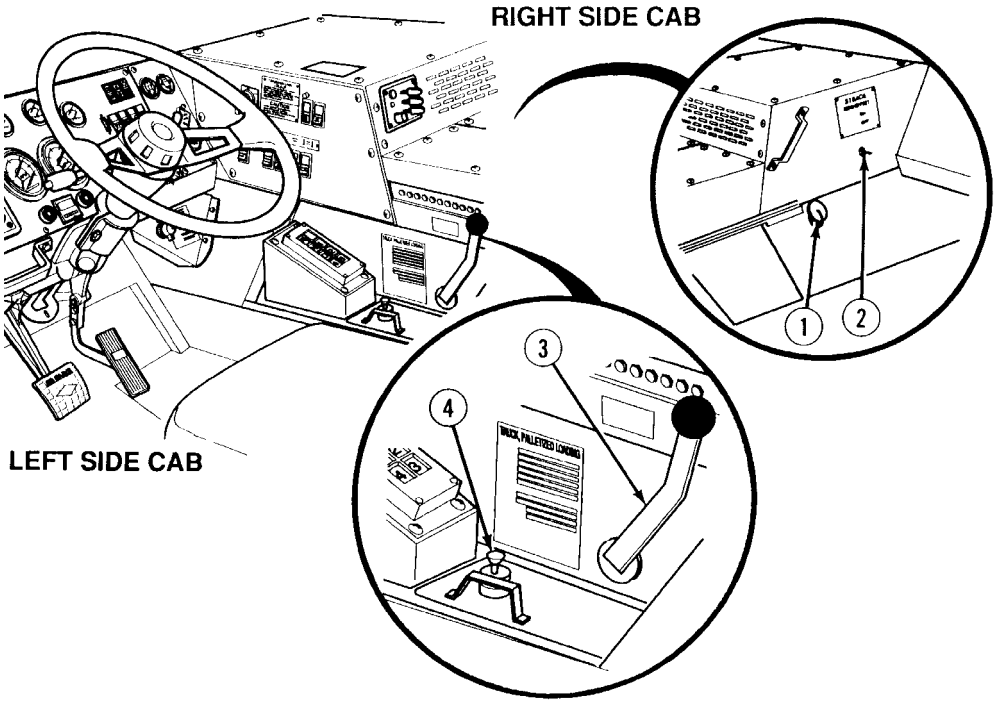


Figure 2-8. Tunnel Panel Controls

Key	Control or Indicator	Function
1	STE/ICE-R Receptacle	For connecting Simplified Test Equipment/Internal Combustion Engine-Reprogrammable (STE/ICE-R).
2	STE/ICE-R ZERO OFFSET Switch	Resets the instrument connected to the STE/ICE-R receptacle switch to zero.
3	TRANSFER CASE Shift Lever	Used to select high (HI) or low (LO) range. Center position is neutral.
4	LHS Load/Unload Joystick	Operates the LHS for loading and unloading.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

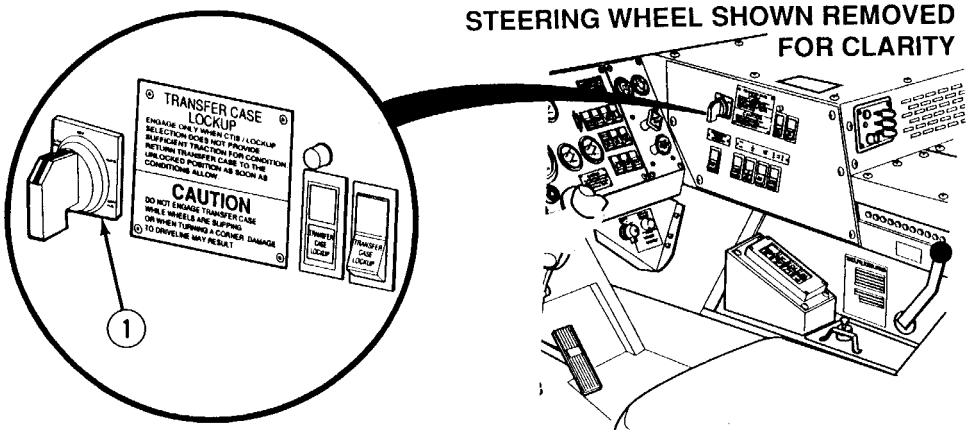


Figure 2-9. Side Panel Assembly Controls and Indicators

Key	Control or Indicator	Function
1	Hydraulic Selector Switch	Selects hydraulic power for LHS, Crane, or Self-Recovery Winch. Selects the mode of operation for LHS. **CAUTION** Always have selector switch in OFF position when driving down the road or damage to equipment may result. • OFF, all hydraulic systems are turned off. • Automatic (AUTO) LHS, hydraulic circuit is activated and system will automatically respond to joystick movement by the operator.

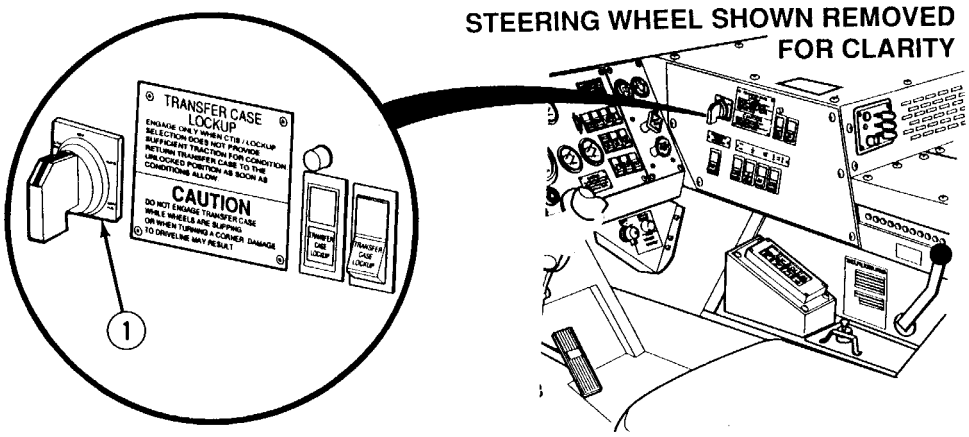


Figure 2-9. Side Panel Assembly Controls and Indicators - CONT.

Key	Control or Indicator	Function
1	Hydraulic Selector Switch - Cont.	• Manual Hook Arm (MAN H.A.) LHS manual hook arm setting is used when automatic sequencing is not operating. This setting bypasses the automatic sequencing circuit to manually operate the Hook Arm only. • Manual Main Frame (MAN M.F.) LHS manual main frame setting is used when automatic sequencing is not operating. This setting bypasses the automatic sequencing system to operate the Main Frame only. • Manual Transport (MAN TRANS) if auto sequence has electrical failure, this position must be selected if the truck is to travel. • Crane/Self-Recovery Winch (CRANE/SRW) used to switch hydraulic power to either the Crane or Winch.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

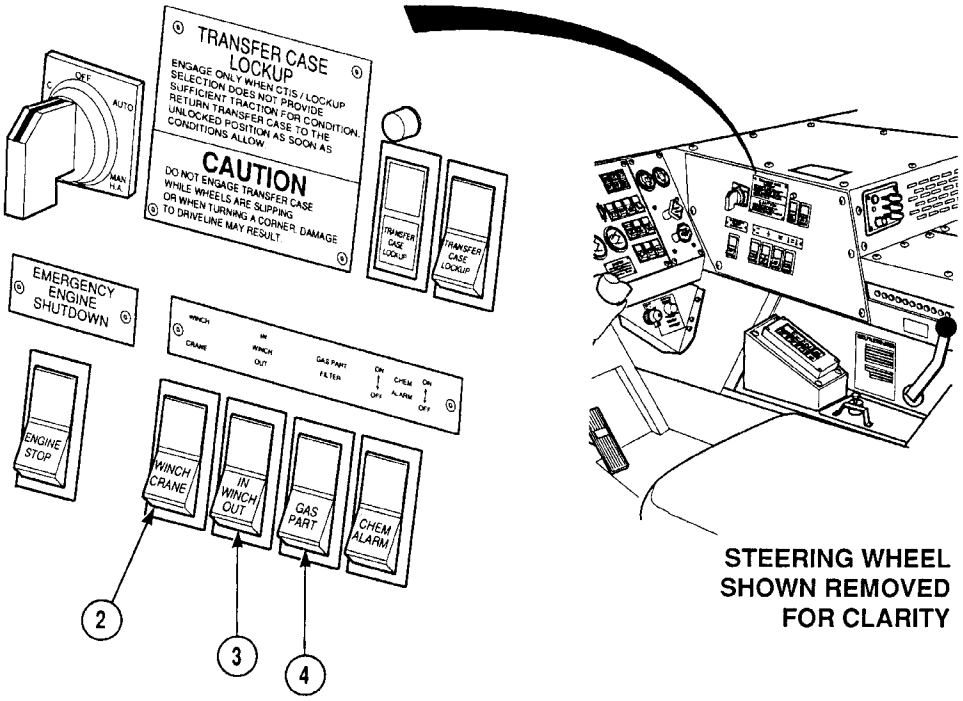


Figure 2-9. Side Panel Assembly Controls and Indicators - CONT.

Key	Control or Indicator	Function
2	WINCH/CRANE Switch	Allows the operator to select SRW or Crane individually when the truck is equipped with both kits.
3	WINCH IN/OUT Switch	Press the switch to control SRW operation from inside the cab when the truck is equipped with SRW kit. IN position pulls the cable in. OUT position feeds the cable out.
4	Gas Particulate Filter Unit (GPFU) Switch	Turns gas particulate filter on or off when the truck is so equipped.

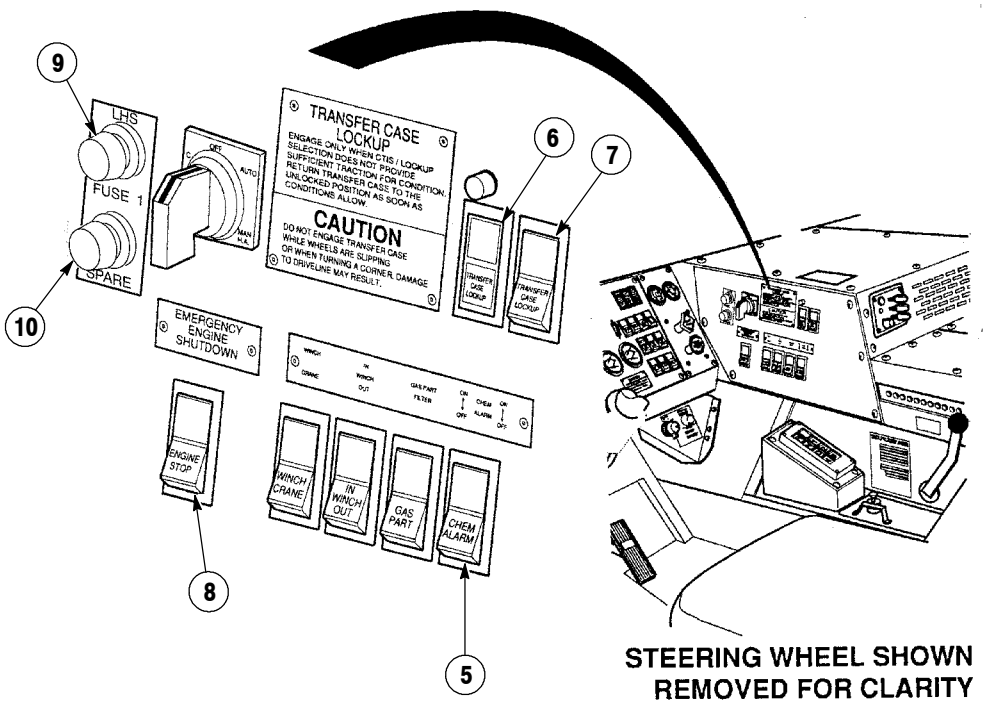


Figure 2-9. Side Panel Assembly Controls and Indicators - CONT.

Key	Control or Indicator	Function
5	Chemical Alarm Switch	Arms chemical alarm system when the truck is so equipped.
6	Transfer Case Lockup Indicator	Lights (amber) when the transfer case is in locked position.
7	Transfer Case Lockup ON/OFF Switch	Locks or unlocks the transfer case.
8	Emergency Engine Shutdown (ENGINE STOP)	Shuts down the engine in the event of Engine ON/OFF/START switch (Figure 2-4, Item 43) failure.
9	LHS Fuse	Protects the LHS controller (joystick) from an over voltage condition (If equipped).
10	Spare LHS Fuse	Holds spare fuse (If equipped).

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

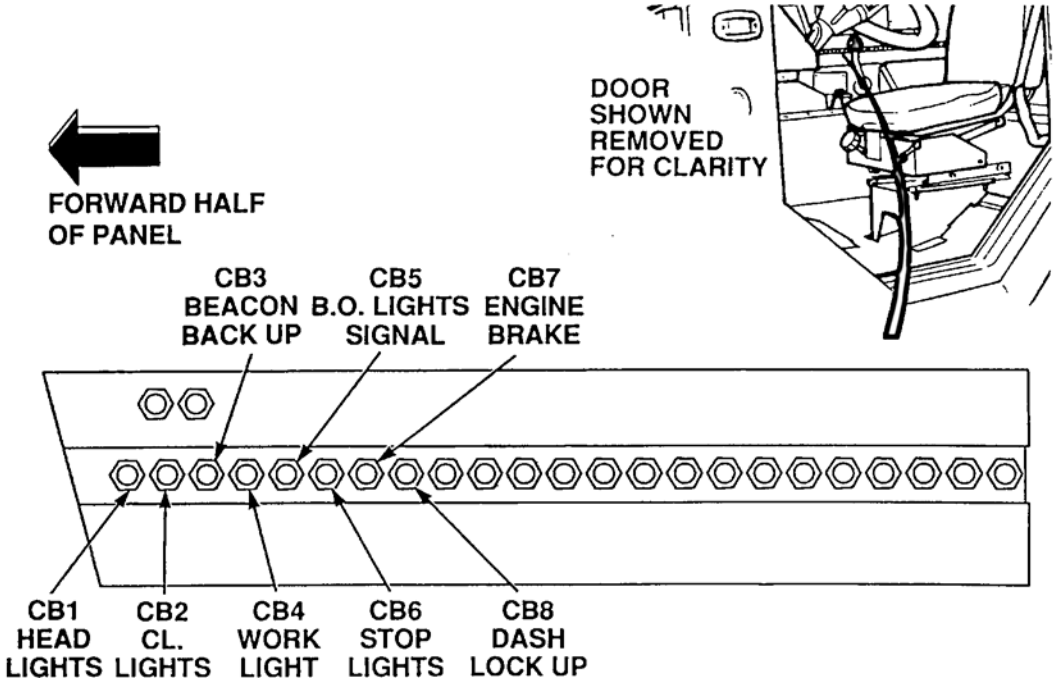


Figure 2-10. Circuit Breakers

Circuit Breaker	Supplies	Circuit Protection For
		NOTE Circuit breakers pop out when tripped. Push breakers in to reset.
CB1	12 volts	Headlights
CB2	12 volts	Clearance, ID Side Marker Lights
CB3	12 volts	Beacon, Backup Light, Horn
CB4	12 volts	Work Lights
CB5	12 volts	B.O. Lights, Turn Signals
CB6	12 volts	Stop Light
CB7	12 volts	Engine Brake
CB8	12 volts	Fuel Water/Separator Inter Axle, Diff Lock, Dash Lights

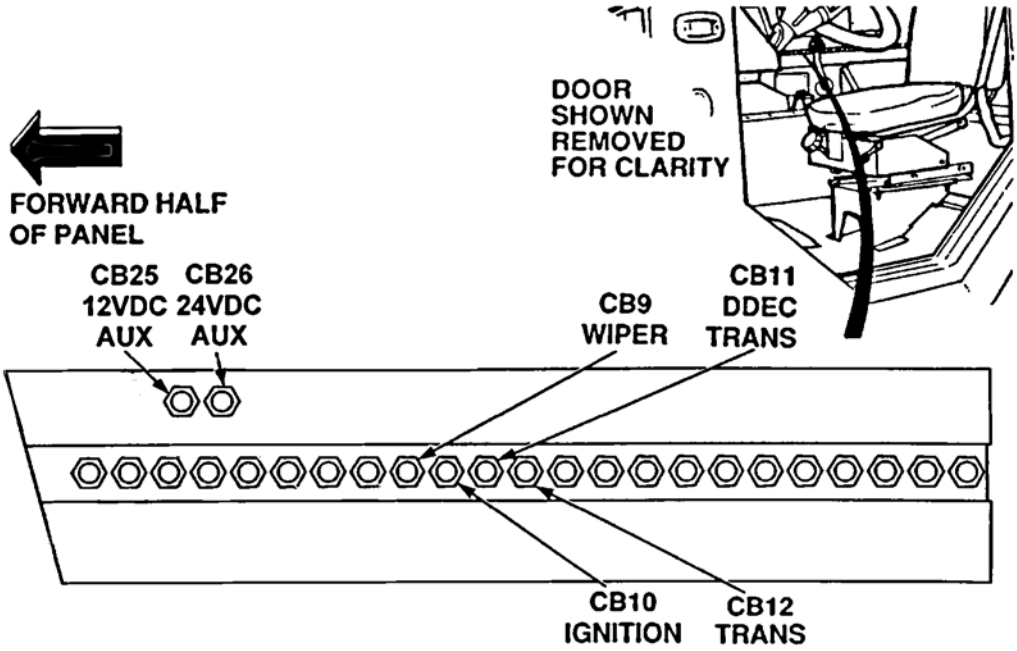


Figure 2-10. Circuit Breakers - CONT.

Circuit Breaker	Supplies	Circuit Protection For
		NOTE Circuit breakers pop out when tripped. Push breakers in to reset.
CB9	12 volts	Windshield Wipers
CB10	12 volts	Ignition
CB11	12 volts	DDEC/TRANS
CB12	12 volts	Transmission
CB25	12 volts	Auxiliary (If Equipped)
CB26	24 volts	Auxiliary (If Equipped)

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

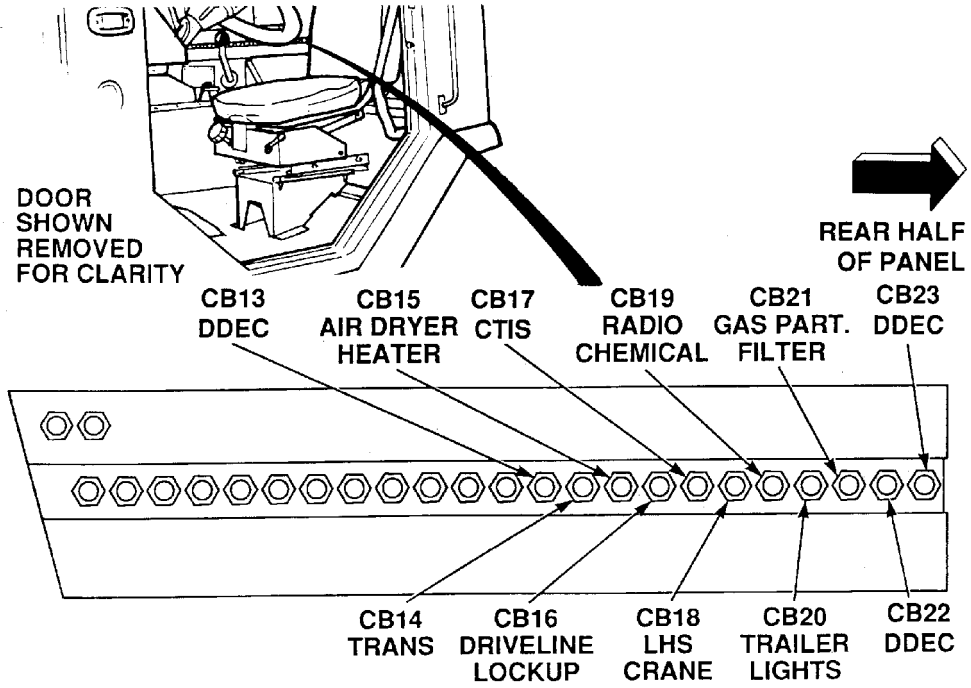


Figure 2-10. Circuit Breakers - CONT.

Circuit Breaker	Supplies	Circuit Protection For
		NOTE Circuit breakers pop out when tripped. Push breakers in to reset.
CB13	12 volts	DDEC
CB14	12 volts	Transmission
CB15	24 volts	Heater
CB16	24 volts	Inter Axle/Diff Relay
CB17	24 volts	CTIS
CB18	24 volts	LHS/Crane
CB19	24 volts	Chemical Alarm/Radio
CB20	24 volts	Trailer Lighting/Horn
CB21	24 volts	Gas Particulate Filter/Air Heater
CB22	12 volts	DDEC
CB23	12 volts	DDEC

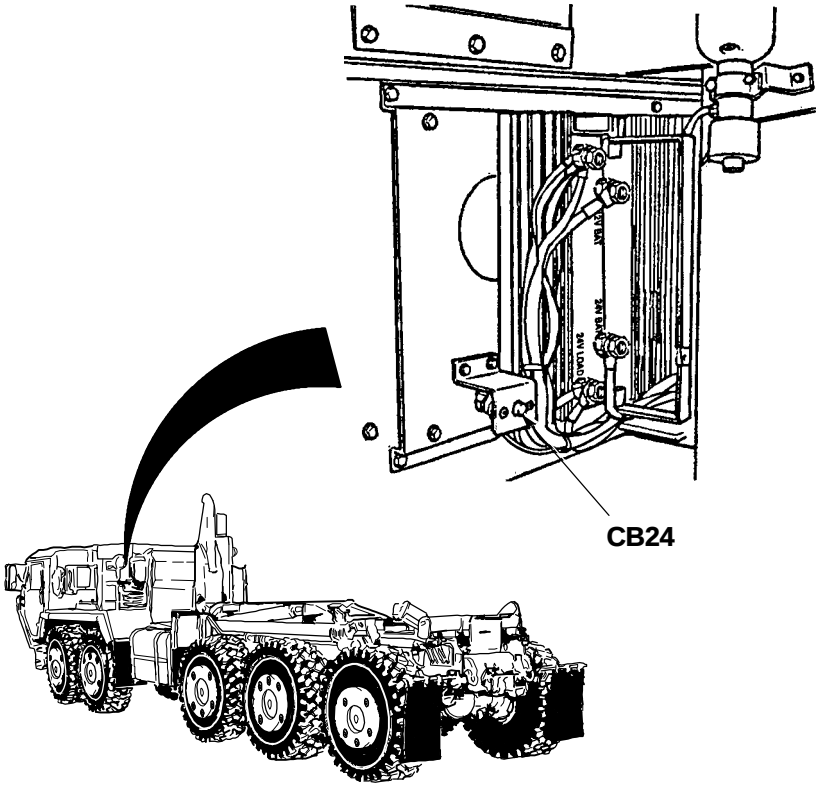


Figure 2-10. Circuit Breakers - CONT.

Circuit Breaker	Supplies	Circuit Protection For
		NOTE Circuit breakers pop out when tripped. Push breakers in to reset.
CB24	24 volts	Fuel Pump

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

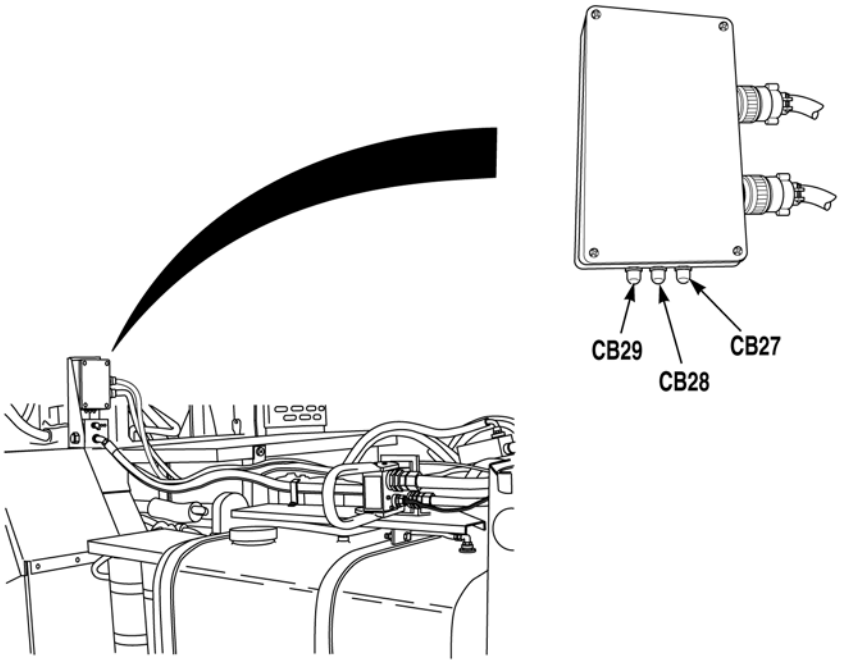


Figure 2-10. Circuit Breakers - CONT.

Circuit Breaker	Supplies	Circuit Protection For
		NOTE Circuit breakers pop out when tripped. Push breakers in to reset.
CB27	12 volts	Power Interface Source (If equipped)
CB28	24 volts	Power Interface Source (If equipped)
CB29	24 volts	Interface Interlock (If equipped)

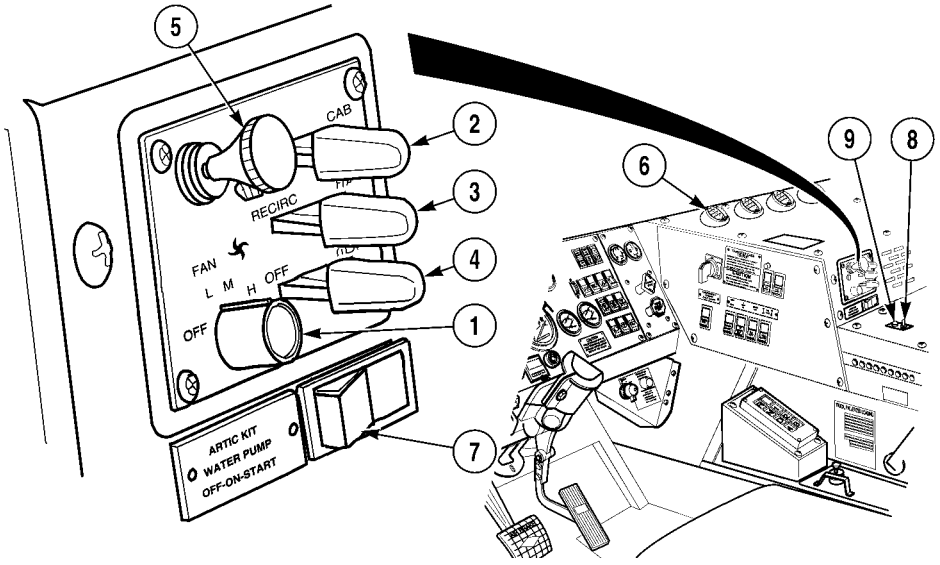


Figure 2-11. Heater Controls and Indicators

Key	Control or Indicator	Function
1	FAN Control	Controls speed of the heater fan.
2	DEFROST	Controls amount of air blown on the windshield or cab floor.
3	AIR Control	Controls amount of outside air entering the cab through fresh air vent.
4	HEAT Control	Controls amount of hot air entering the cab.
5	Cab Ventilator	Controls amount of air blown from the blower vents.
6	Blower Vents	Controls direction of air flow.
7	Arctic Heater Switch (Model A)	Turns ON/OFF power to the arctic heater (Model A) pump (if equipped).
8	Arctic Heater Switch (Model B)	Turns ON/OFF power to the arctic heater (Model B) (if equipped).
9	Arctic Heater Indicator Light (Model B)	Light illuminates when arctic heater switch is placed in ON position.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

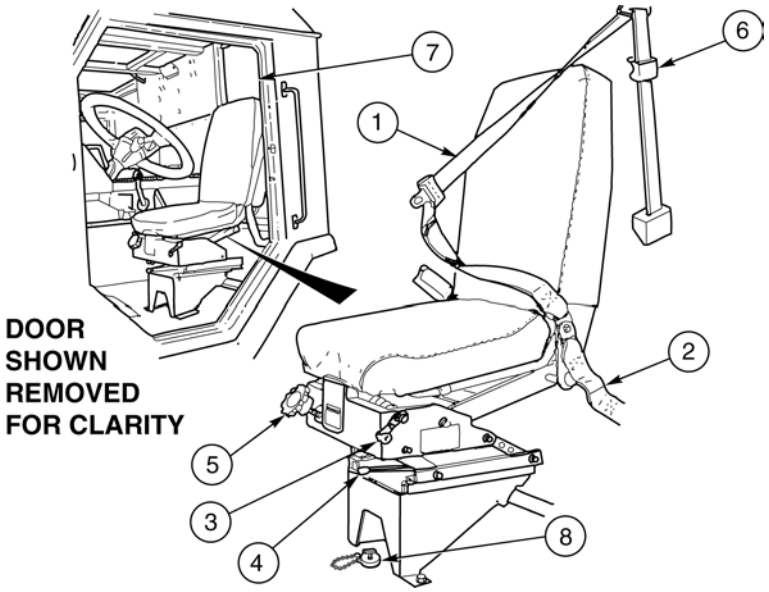


Figure 2-12. Operator and Crew Seat Adjustment Controls

Key	Control or Indicator	Function
1	Seat Belt/Shoulder Belt	Secures personnel in the seat (controls on both seats are the same).
2	Seat Connector Strap	Secures seat to the cab frame.
3	Height Adjustment Control	Use to adjust the seat height.
4	Forward/Backward Adjustment Control	Use to move the seat forward or backward on slides.
5	Ride Adjustment Control	Use to adjust the seat tension and ride firmness.
6	Shoulder Harness Latch	Use to adjust the shoulder harness.
7	Cargo Net	Use to store chemical and biological warfare gear or personal items, one behind each seat. MHC cable stored behind passenger seat.
8	Cab Floor Drain	Use to drain out water from cab.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

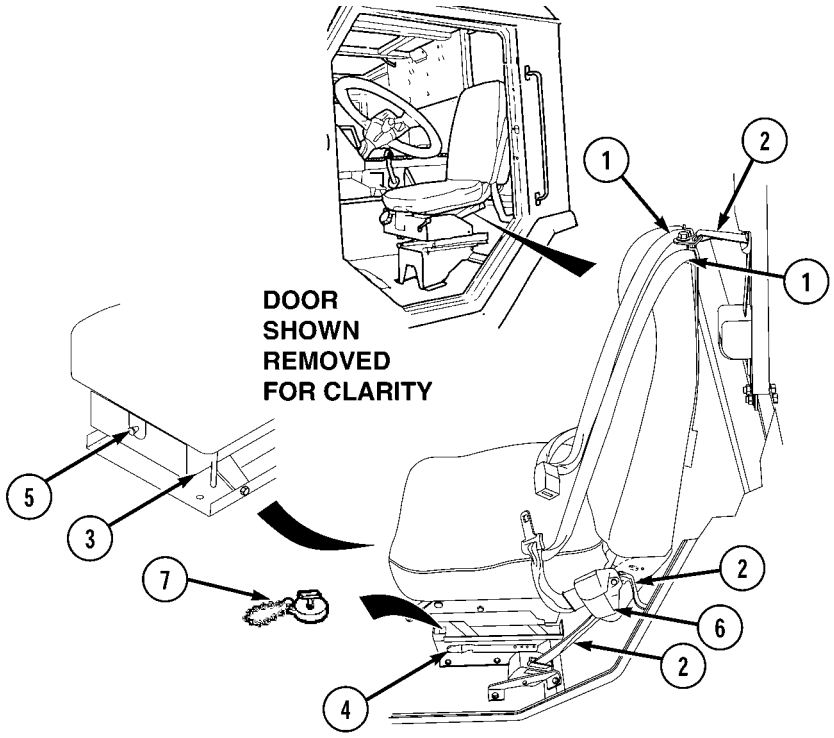


Figure 2-12.1. Operator and Crew Four-Point Seat Belt/Air-Ride Seat Adjustment Controls

Key	Control or Indicator	Function
1	Seat Belt	Secures personnel in seat.
2	Seat Connector Strap	Secures seat to the cab frame.
3	Height Adjustment Control	Use to adjust the seat height.
4	Forward/Backward Adjustment Control	Use to move the seat forward or backward on slides.
5	Ride Adjustment Control	Use to adjust the seat tension and ride firmness.
6	Retractor	Locks seat belt in event of accident, stows seat belt when not in use.
7	Cab Floor Drain	Use to drain out water from cab.

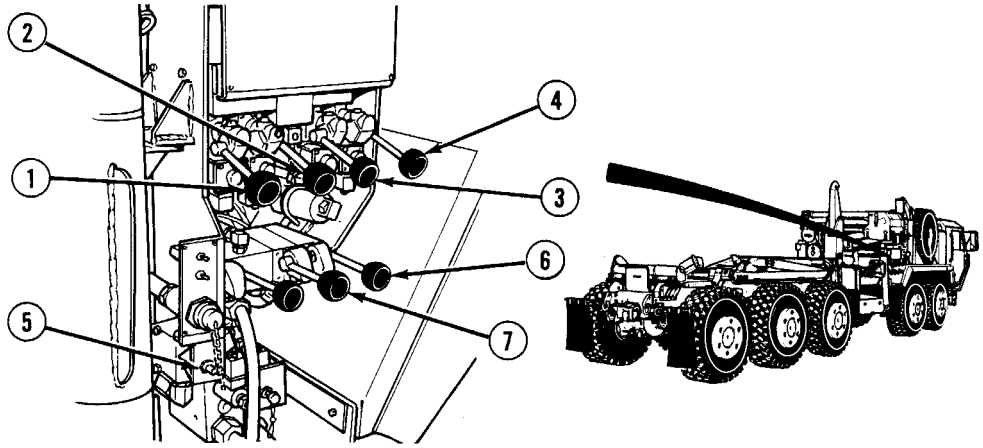


Figure 2-13. Right Hand Crane and Outrigger Jack Control Panel

Key	Control or Indicator	Function
1	SWING Control Lever	Moves boom clockwise and counterclockwise.
2	TELESCOPE Control Lever	**CAUTION** TELESCOPE and HOIST control levers should be operated at the same time or hook block will contact boom tip and cause damage. Move TELESCOPE control lever to OUT position to extend the boom. Move TELESCOPE control lever to IN position to retract the boom.
3	BOOM Lift Control Lever	Raises and lowers the boom.
4	HOIST Control Lever	Reels in and pays out the cable.
5	MHC MAIN HYDRAULIC PRESSURE MANUAL OVERRIDE	Provides emergency hydraulic power when electrical power fails that results in loss of outrigger jack and crane function.
6	RH O/R JACK Control Lever	Lowers and raises the right outrigger jack.
7	MAST Control Lever	Raises the mast to operating position and lowers the mast to stowage position.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

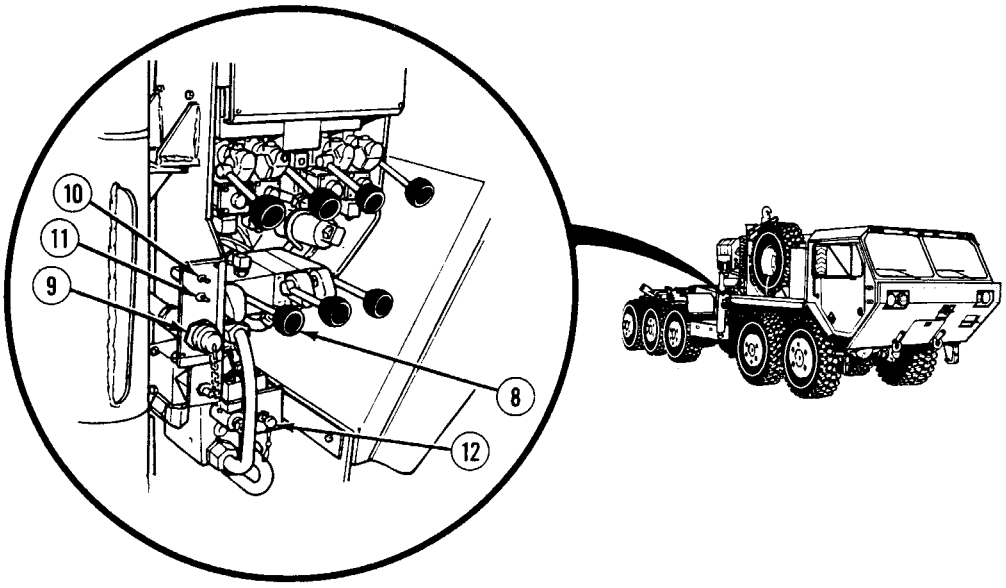


Figure 2-13. Right Hand Crane and Outrigger Jack Control Panel - CONT.

Key	Control or Indicator	Function
8	LH O/R JACK Control	Lowers and raises the left outrigger jack.
9	RH Remote Control Hookup	Connection for the remote control when used on RH side.
10	Main Power Switch	Provides electrical power to the crane and outrigger jacks. Protects crane electrical systems.
11	High Idle Switch	Raises and latches the truck engine speed at high idle for crane operation.
12	MHC SYSTEM HYDRAULIC PRESSURE MANUAL OVERRIDE	Remove safety wire then push in and hold to allow manual override to function when the outrigger jack safety circuit has failed (outrigger jacks are deployed but crane boom, telescope, swing and hoist functions do not operate).

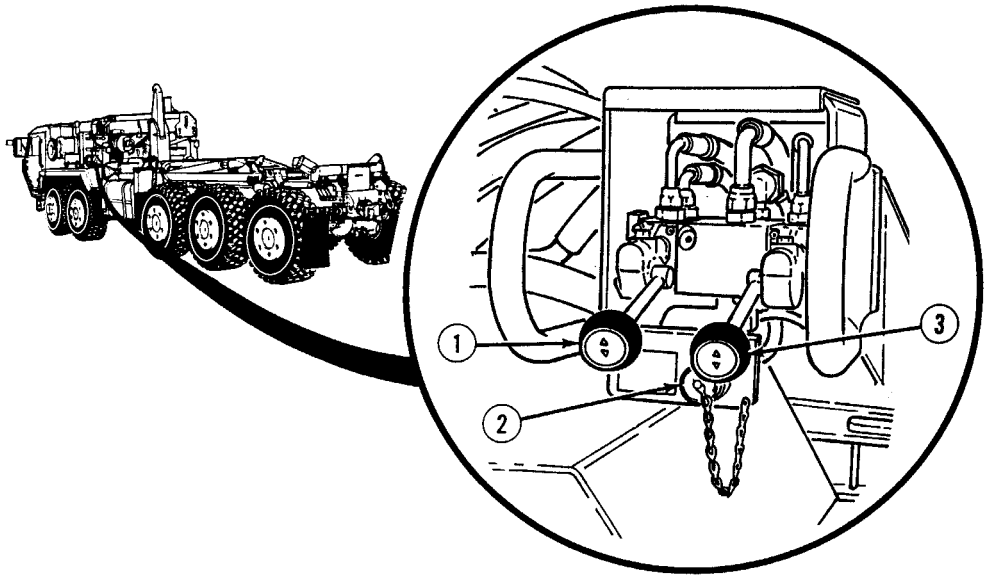


Figure 2-14. Drivers Side Outrigger Jack Control Panel

Key	Control or Indicator	Function
1	LH O/R JACK Control	Lowers and raises the left outrigger jack.
2	LH Remote Control Hookup	Connection for the remote control when used on LH side.
3	RH O/R JACK Control Lever	Lowers and raises the right outrigger jack.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

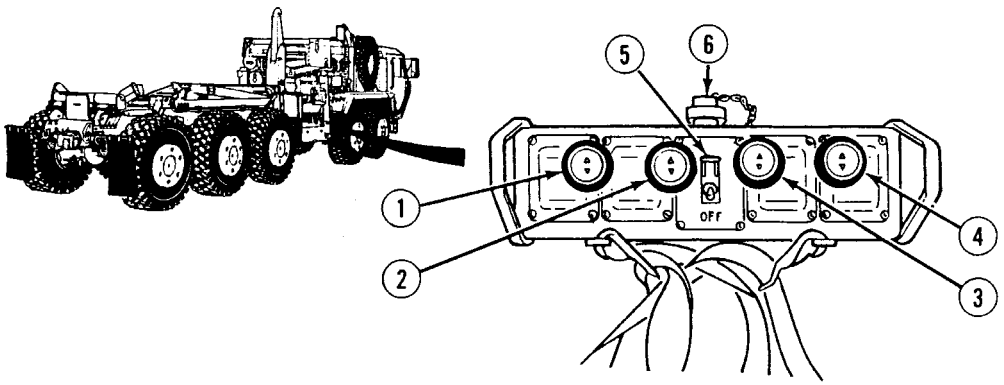


Figure 2-15. Crane Remote Control Unit

Key	Control or Indicator	Function
1	SWING Control Lever	Moves crane clockwise and counterclockwise.
2	TELESCOPE Control Lever	**CAUTION** TELESCOPE and HOIST control levers should be operated at the same time or hook block will contact boom tip and cause damage. Move TELESCOPE control lever to OUT position to extend the boom. Move TELESCOPE control lever to IN position to retract the boom.
3	BOOM Control Lever	Raises and lowers the boom.
4	HOIST Control Lever	Reels in and pays out the cable.
5	REMOTE CONTROL UNIT ON/OFF/EMERGENCY STOP Switch	Supplies and shuts off electrical power to the crane and controls truck engine speed from REMOTE CONTROL UNIT. Also provides crane EMERGENCY STOP/TRUCK IDLE CONDITION.
6	REMOTE Hookup Wire Outlet	Allows cable hookup between the crane and remote.

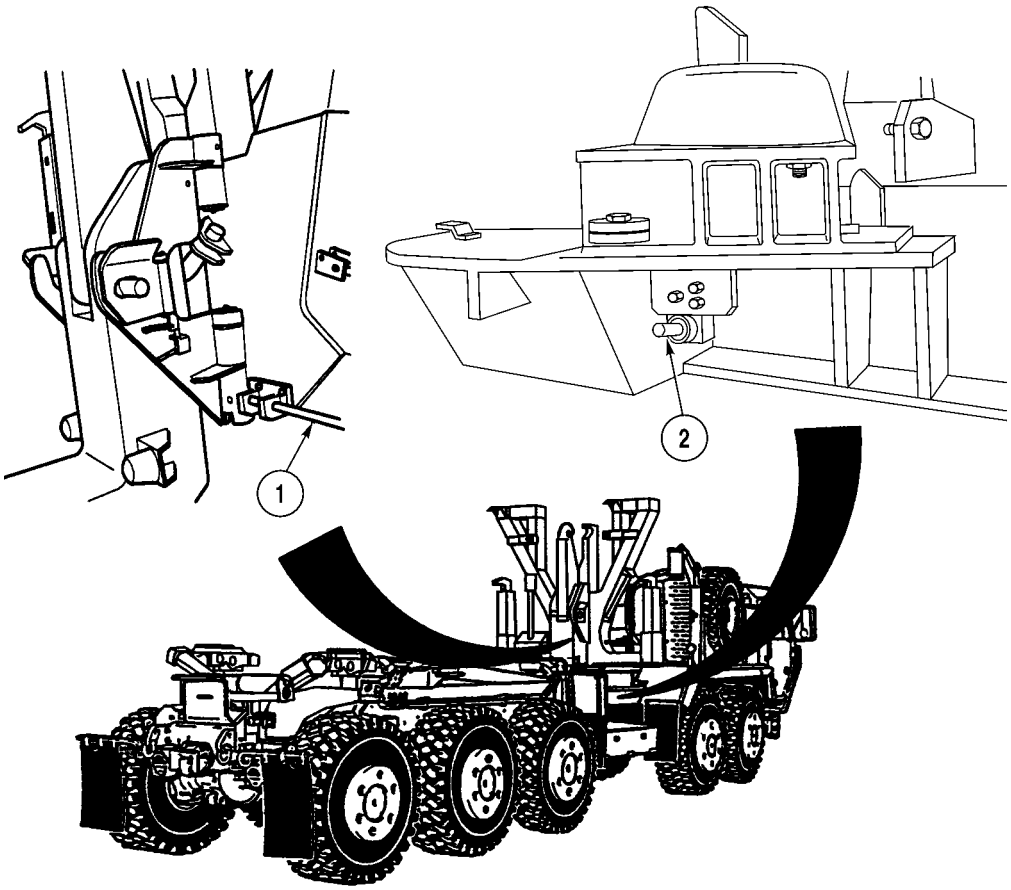


Figure 2-16. Right Hand Container Handling Unit Controls

Key	Control or Indicator	Function
1	Flipper Lock Pin Handle (RH)	Locks flipper bracket in locked or unlocked position.
2	Air Control Valve (RH)	Operates air cylinder to paddle that rotates flipper bracket when lifting frame is in stowed position.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

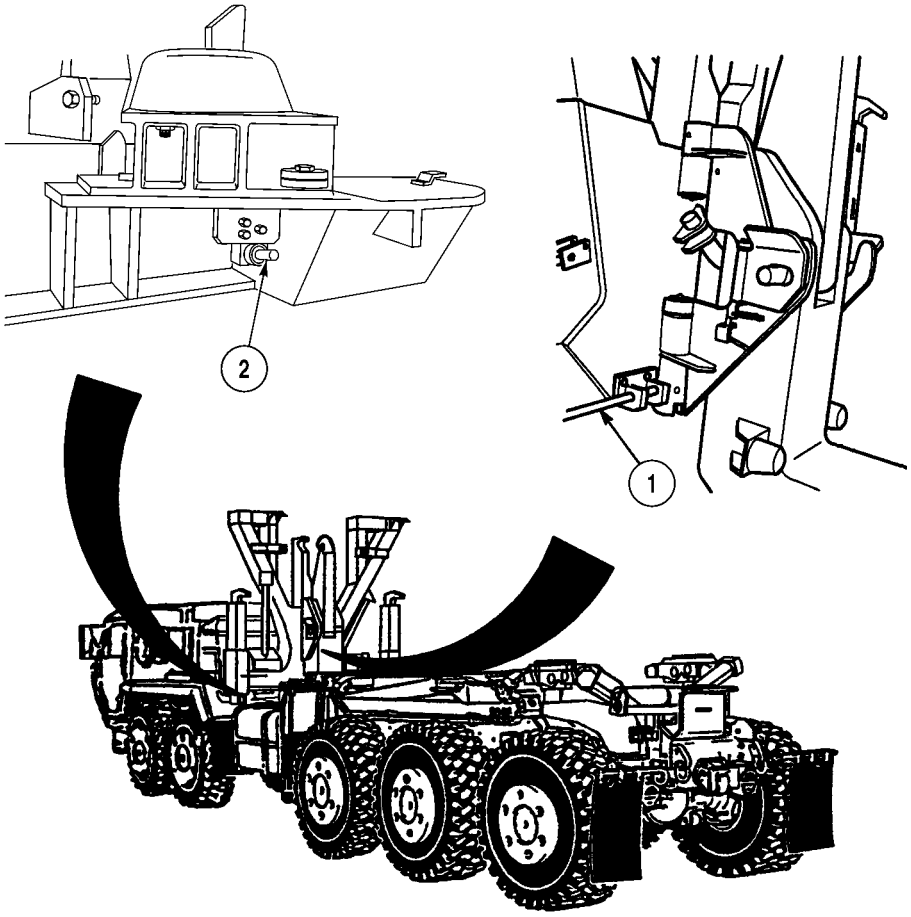


Figure 2-17. Left Hand Container Handling Unit Controls

Key	Control or Indicator	Function
1	Flipper Lock Pin Handle (LH)	Locks flipper bracket in locked or unlocked position.
2	Air Control Valves (LH)	Operates air cylinder to paddle that rotates flipper bracket when lifting frame is in stowed position.

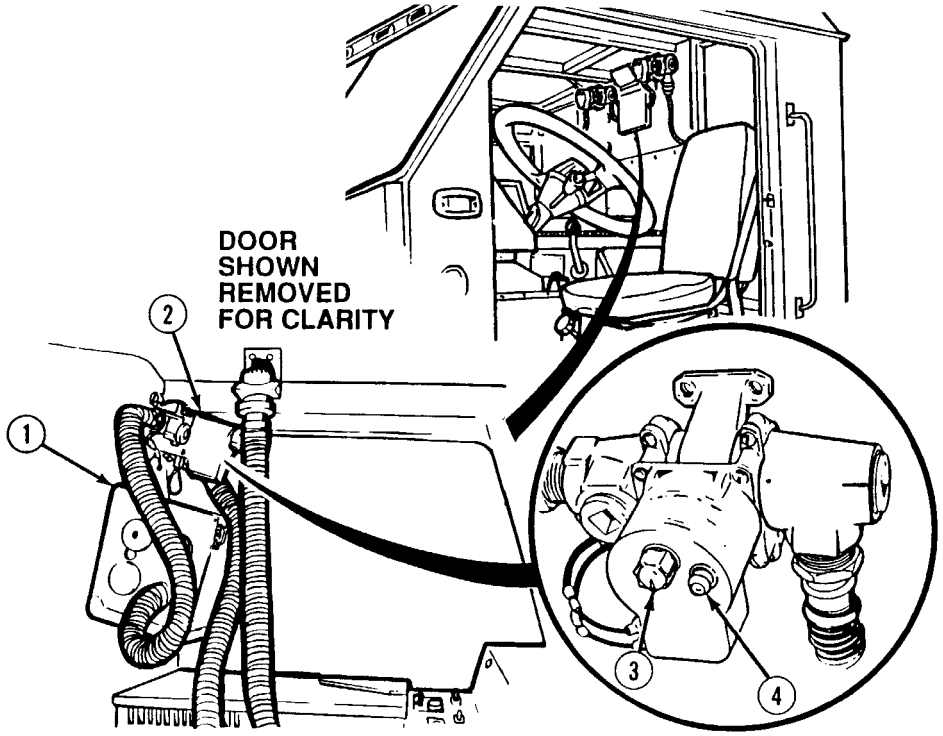


Figure 2-18. Gas Particulate Filter Unit (GPFU) Kit

Key	Control or Indicator	Function
1	Gas Particulate Filter Unit (GPFU)	Filters nuclear, biological and chemical (NBC) contaminants from the air.
2	M-3 Heater	Warms the air entering protective mask.
3	M-3 Heater Control Knob	Turn CW for warmer air. Turn CCW for cooler air. Turn to OFF to shut off heater.
4	M-3 Heater Indicator Light	Lights when the heater is operating.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

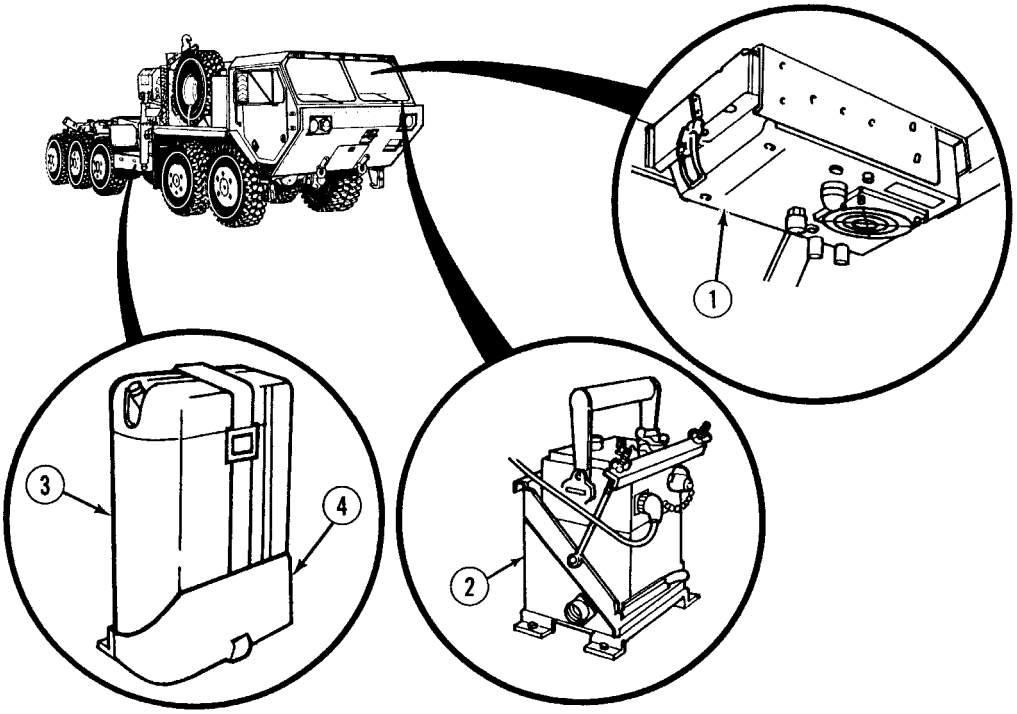


Figure 2-19. M-8 Chemical Alarm and Decontamination Unit Kits

Key	Control or Indicator	Function
1	M-8 Chemical Alarm	Sounds the alarm when chemicals are detected.
2	Chemical Detector	Detects the presence of chemicals in air.
3	M-13 Decontamination Unit	Holds and dispenses the decontaminant. **NOTE:** M-13 Decontamination Unit and mount is located on left side of truck on air dryer mounting bracket if truck is equipped with an auxillary fuel tank.
4	Decontamination Unit Mount	Holds the decontamination unit.

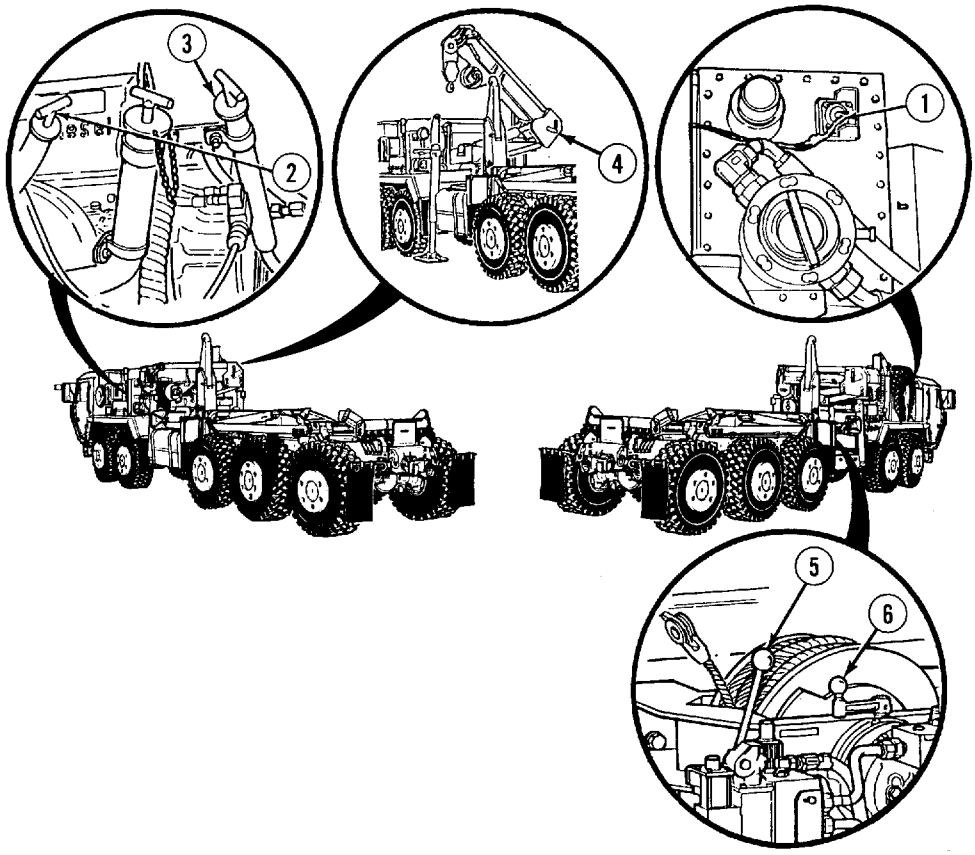


Figure 2-20. Exterior Mounted Controls and Indicators

Key	Control or Indicator	Function
1	Hydraulic Reservoir Gage	Indicates hydraulic oil level in the main reservoir.
2	Engine Oil Dipstick	Indicates the engine oil level.
3	Transmission Oil Dipstick	Indicates the transmission oil level.
4	Boom Angle Indicator	Indicates the angle of boom inclination.
5	Self-Recovery Winch Control Lever	Pays the cable in or out.
6	Self-Recovery Winch Clutch	Engages and disengages the winch clutch control to allow free spooling of the winch.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

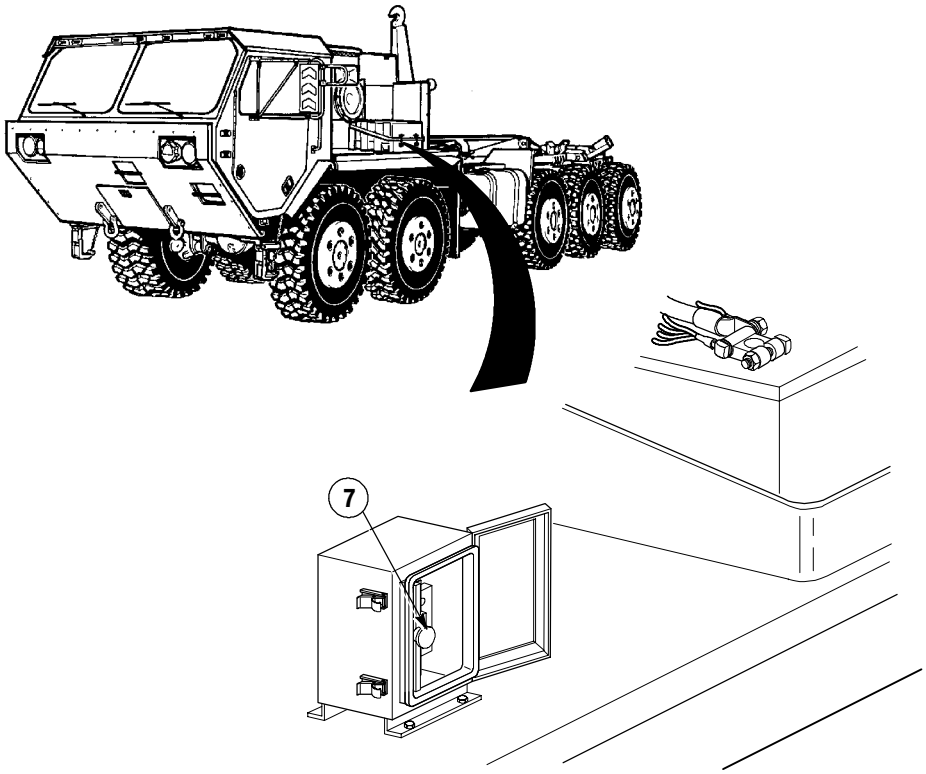


Figure 2-20. Exterior Mounted Controls and Indicators - CONT.

Key	Control or Indicator	Function
7	Battery Disconnect Switch (If equipped)	Disconnects the batteries prior to long term storage and during maintenance actions.

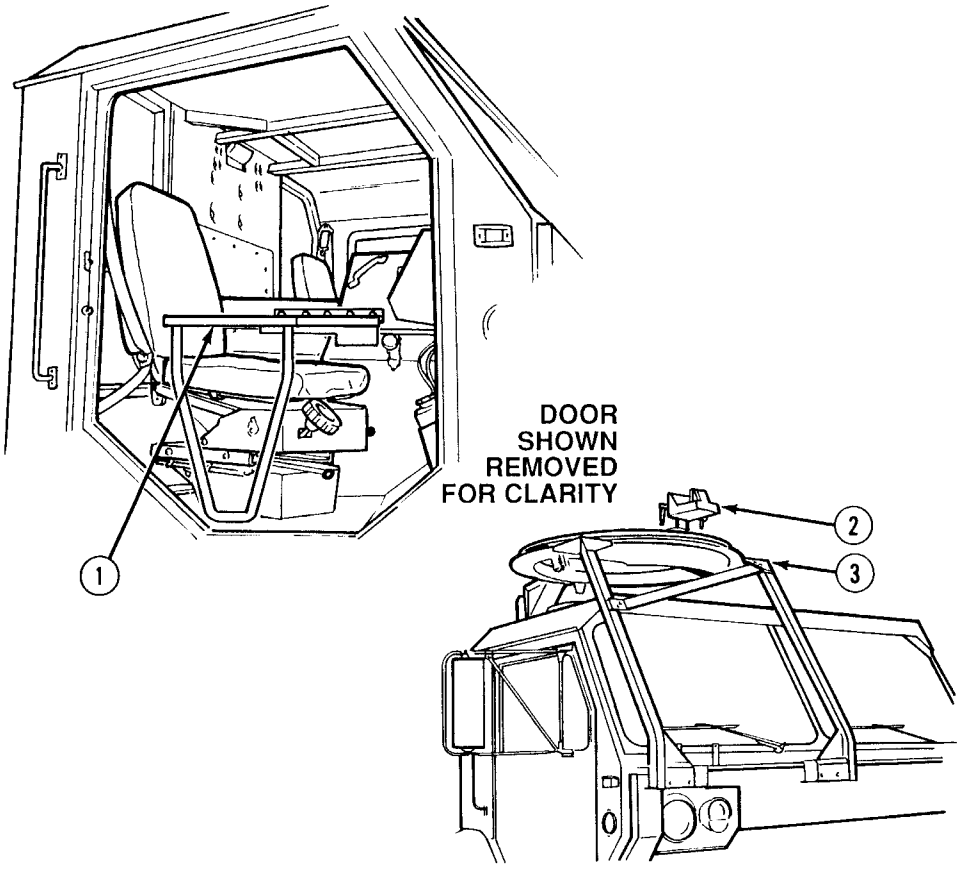


Figure 2-21. Machine Gun Mount Kit

Key	Control or Indicator	Function
1	Machine Gun Operator Platform	Supports the machine gun operator.
2	Machine Gun Mount	Secures the machine gun to machine gun ring.
3	Machine Gun Ring	Allows the machine gun to turn 360°.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

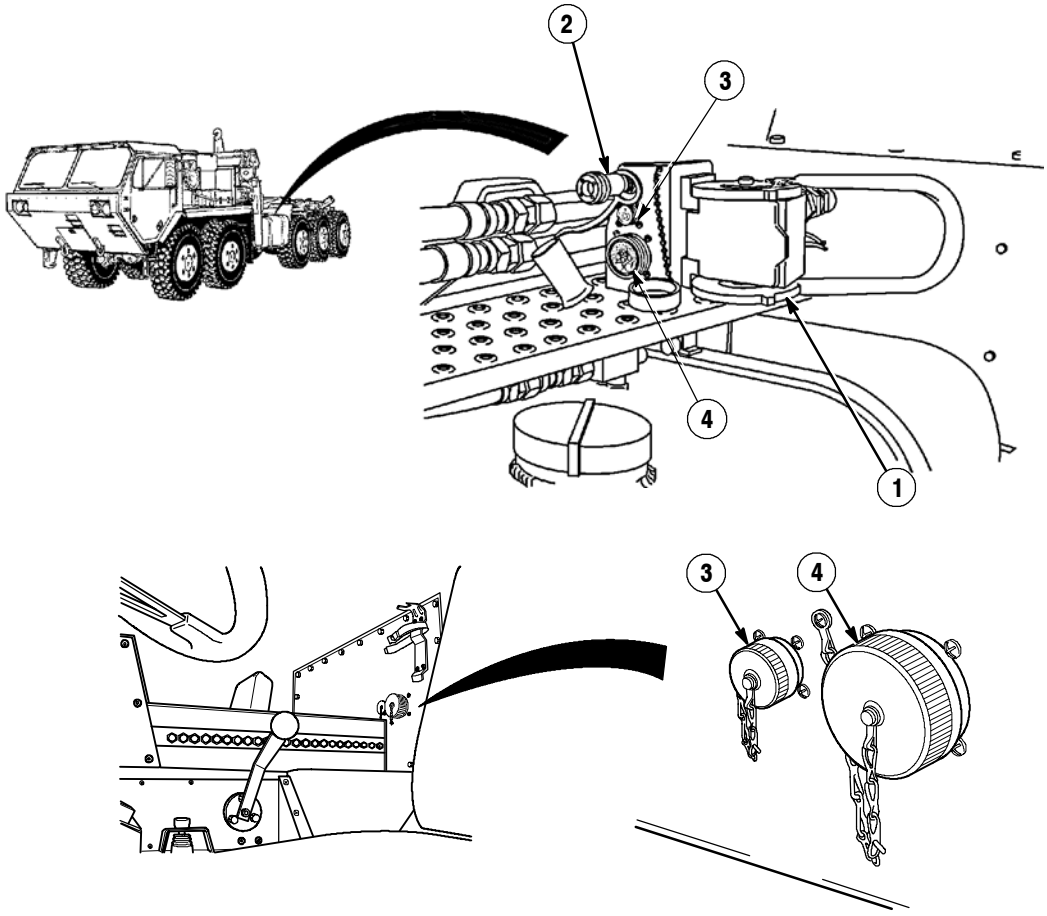


Figure 2-22. Power Interface Kit (If Equipped)

Key	Control or Indicator	Function
1	Power Interface Hydraulic Quick Disconnect	Connection that supplies hydraulic fluid pressure to an engineering mission module.
2	Power Interface Air Quick Disconnect	Connection that supplies air pressure to an engineering mission module.
3	Power Interface Electrical Connector (5 pin)	Connection to auxillary equipment high idle circuit of an engineering module.
4	Power Interface Electrical Connector (23 pin)	Connection that supplies electrical power to an engineering mission module.

2-4. DECALS AND INSTRUCTION PLATES.

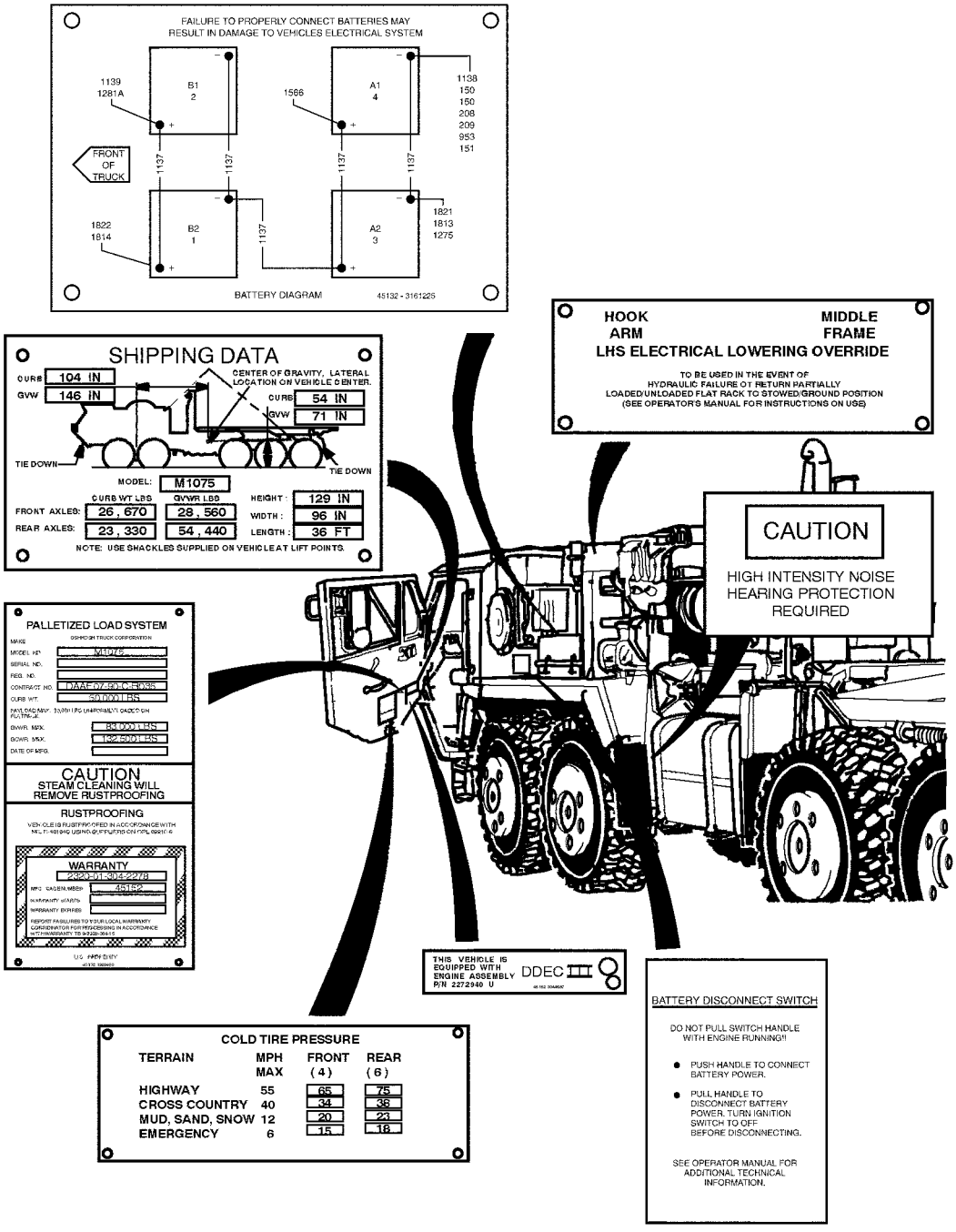


Figure 2-23. Decals and Instruction Plates

2-4. DECALS AND INSTRUCTION PLATES (CONT).

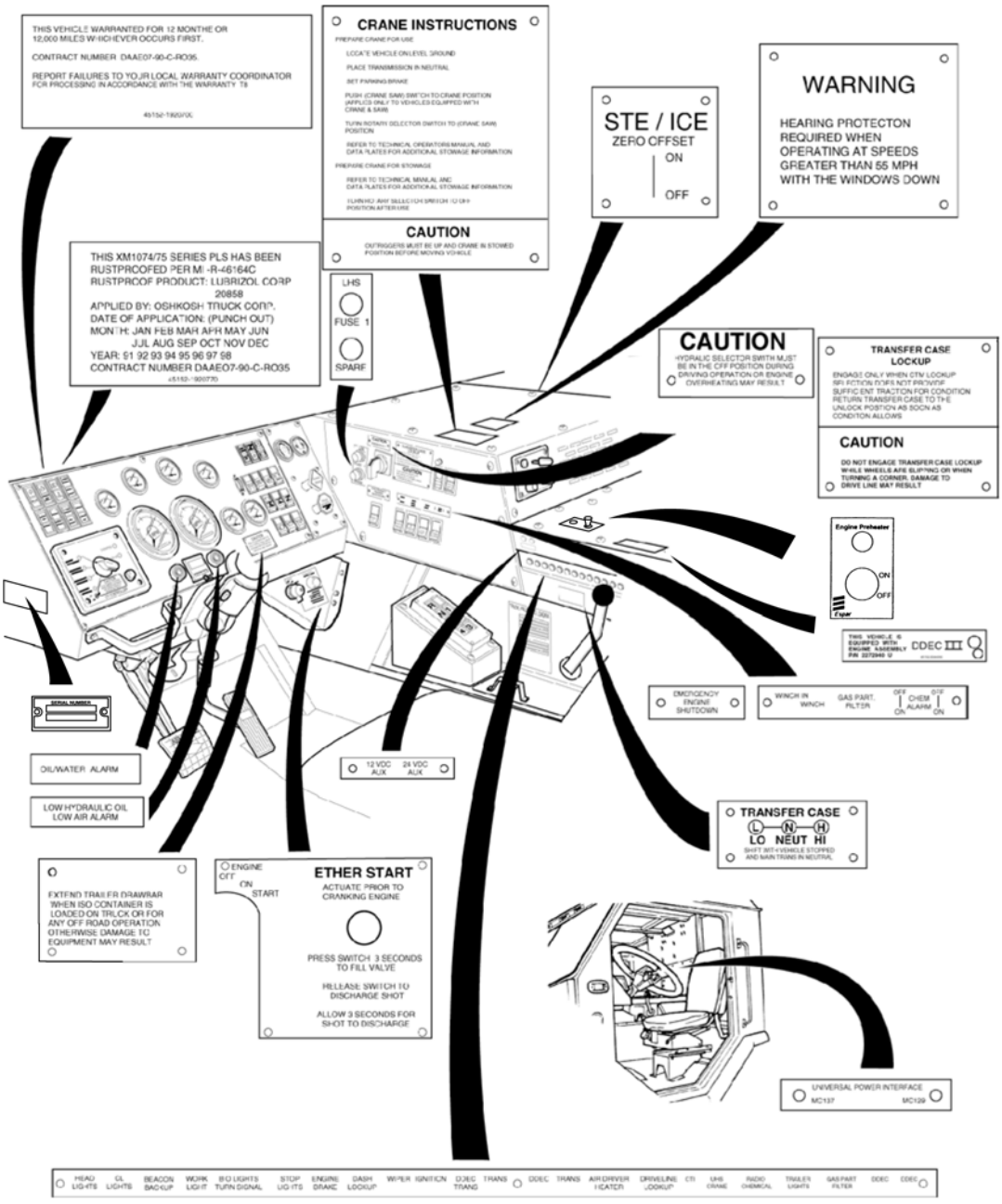


Figure 2-23. Decals and Instruction Plates - CONT.

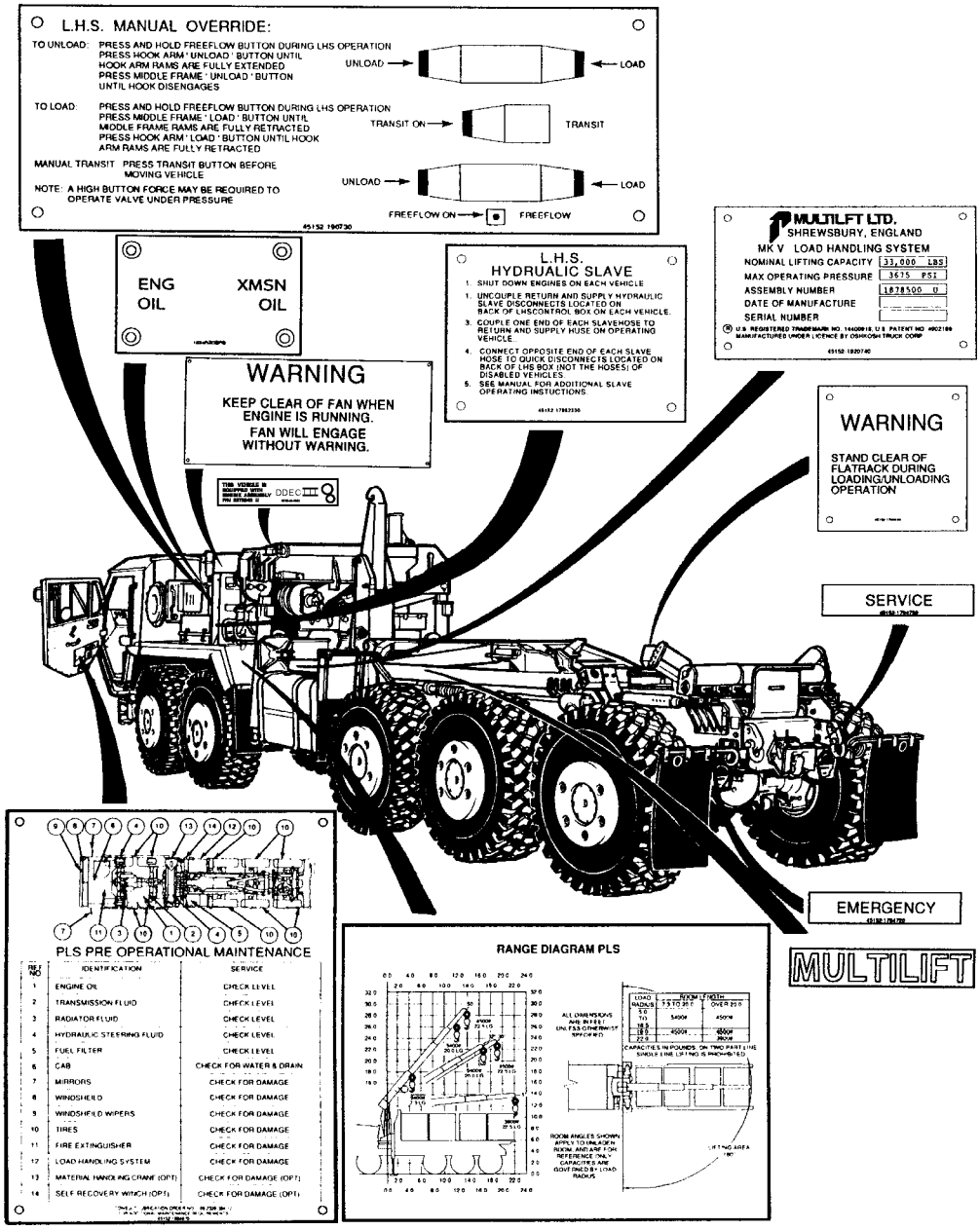


Figure 2-23. Decals and Instruction Plates - CONT.

2-4. DECALS AND INSTRUCTION PLATES (CONT).

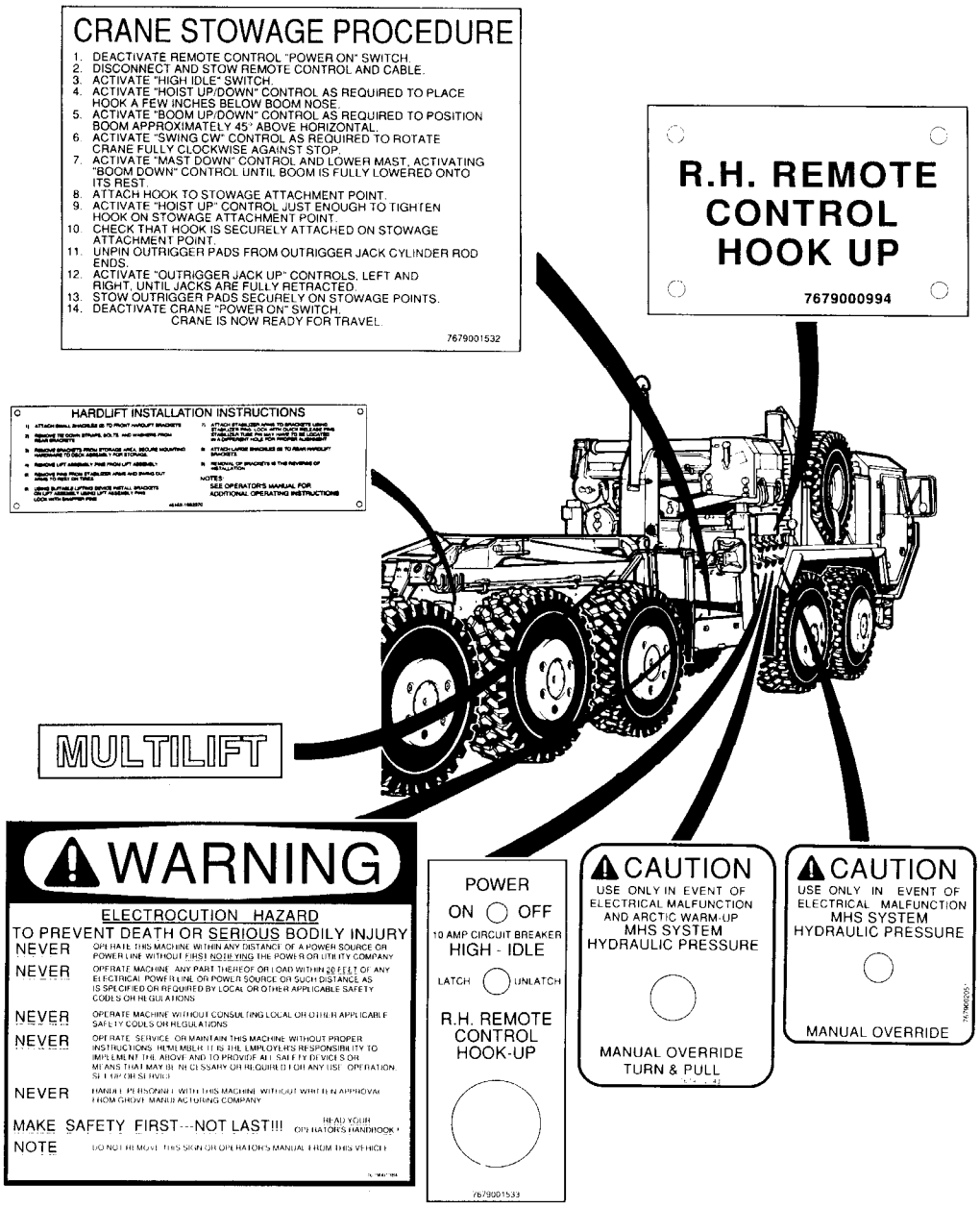


Figure 2-23. Decals and Instruction Plates - CONT.

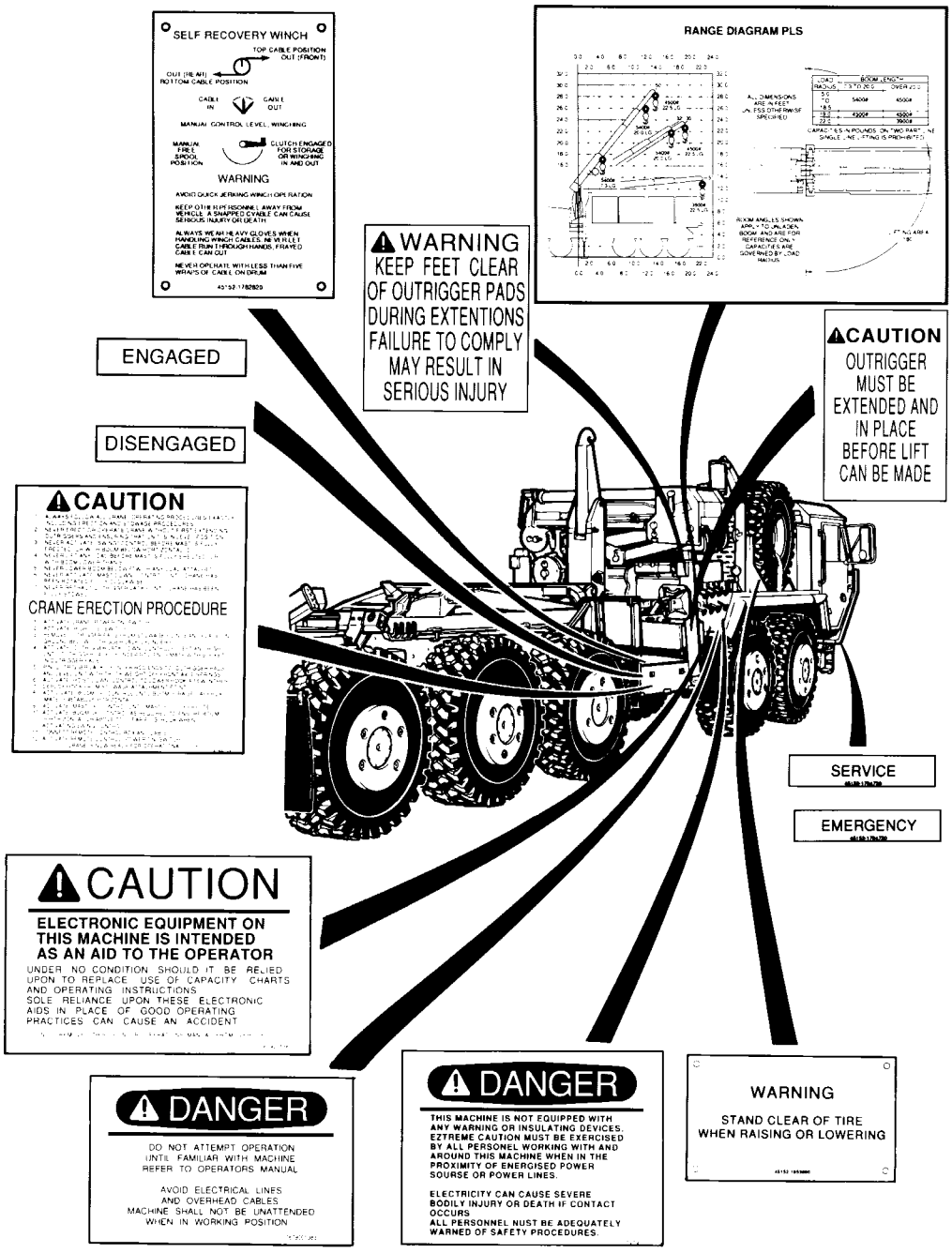


Figure 2-23. Decals and Instruction Plates - CONT.

2-4. DECALS AND INSTRUCTION PLATES (CONT).

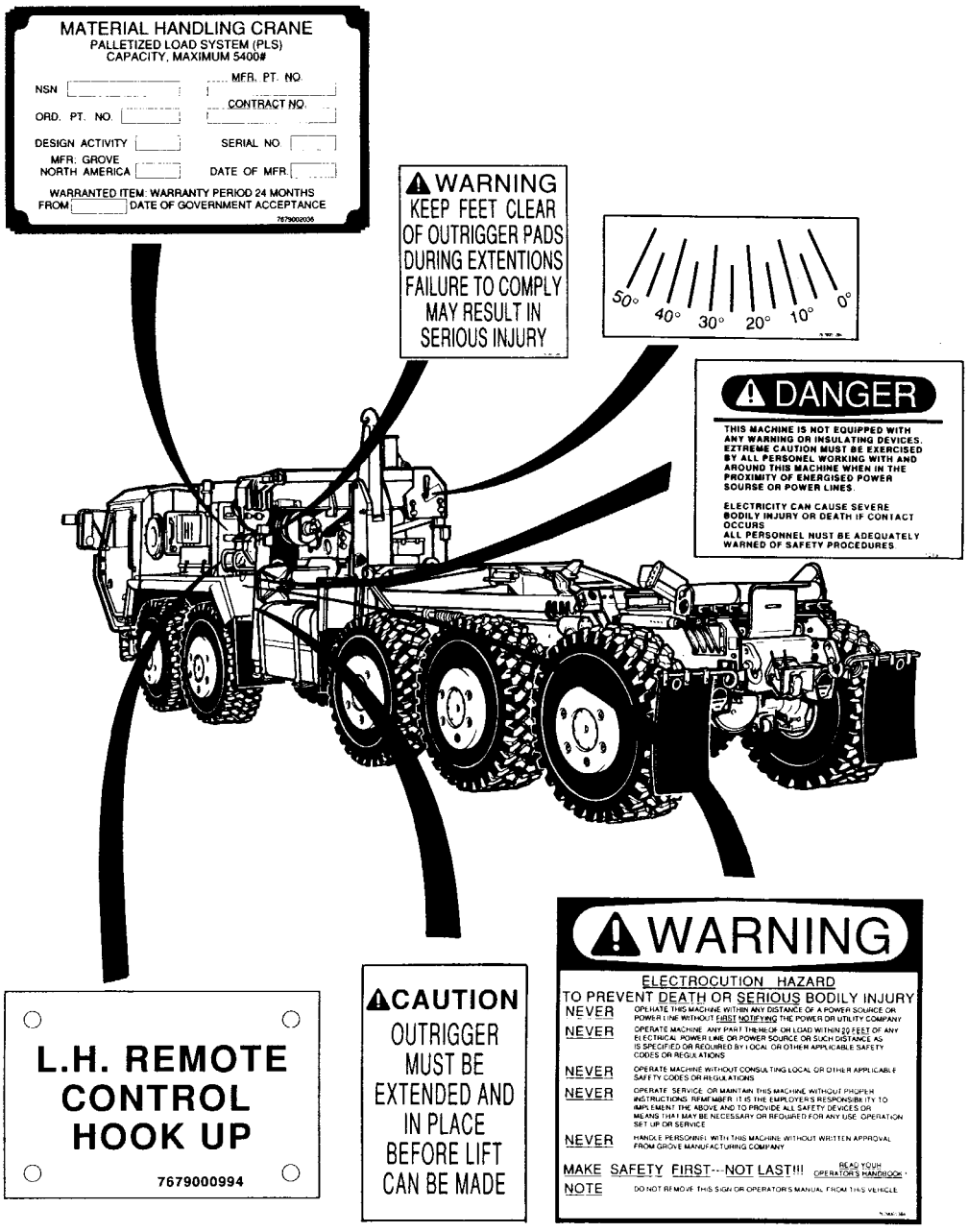


Figure 2-23. Decals and Instruction Plates - CONT.

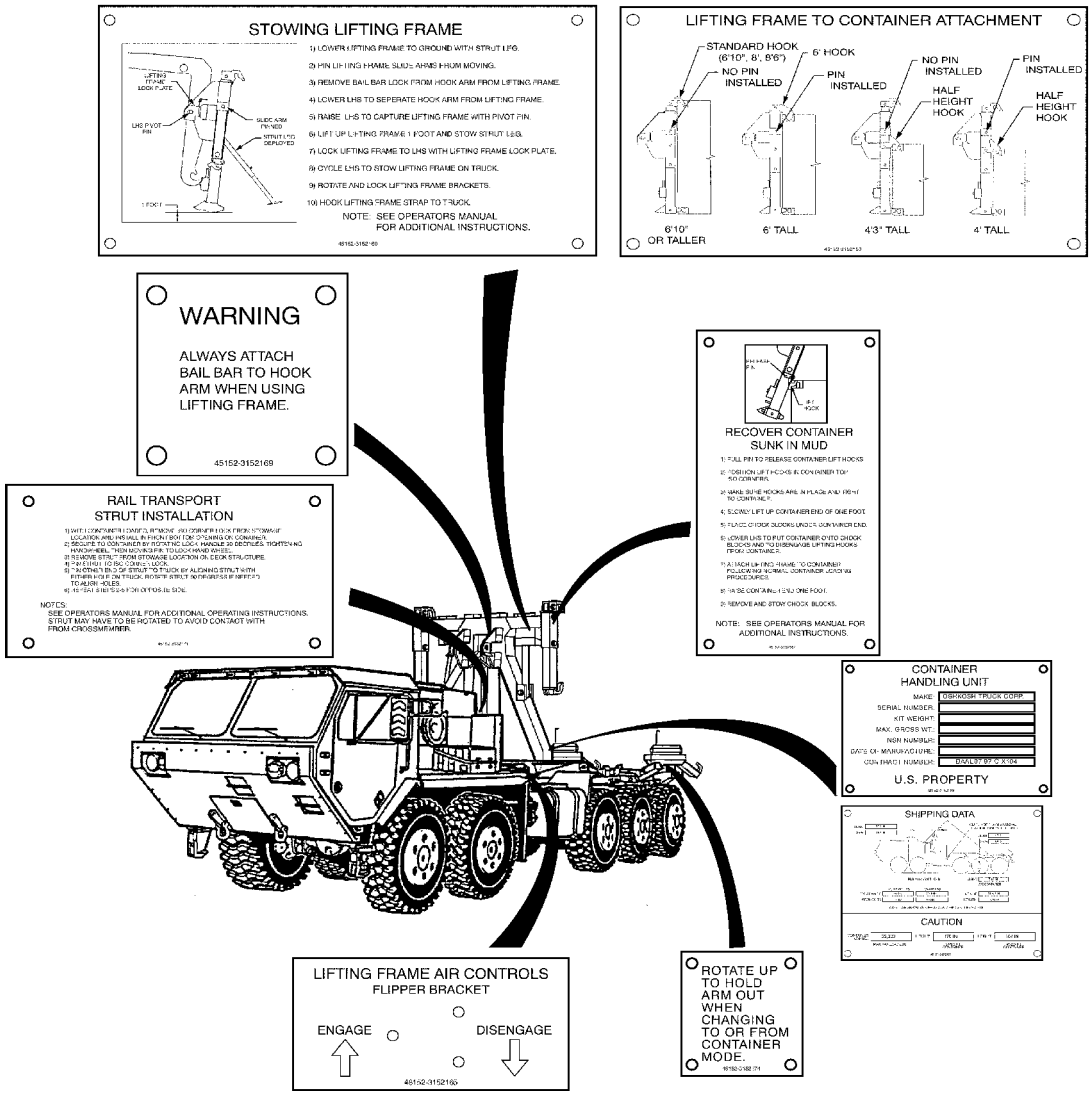


Figure 2-23. Decals and Instruction Plates - CONT.

2-4. DECALS AND INSTRUCTION PLATES (CONT).

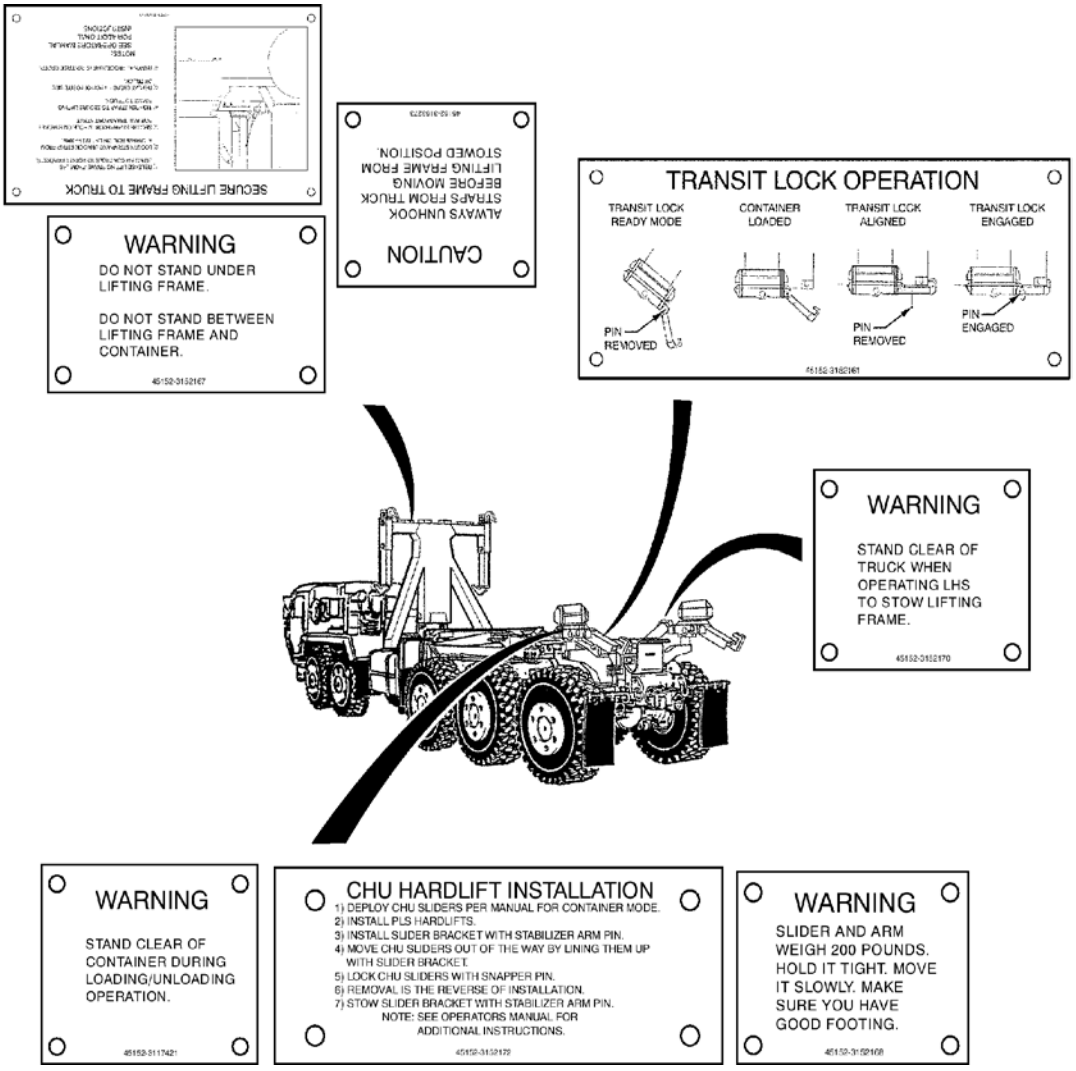


Figure 2-23. Decals and Instruction Plates - CONT.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-5. GENERAL.

This section contains PMCS requirements for the truck. The PMCS tables contain checks and services necessary to ensure that the truck is ready for operation. Not all trucks are equipped with crane or self-recovery winch. Using PMCS tables, perform maintenance at specified intervals.

a. Cleaning Instructions and Precautions. During PMCS keep the following general maintenance procedures in mind:

(1) *Cleanliness*. Dirt, grease, oil and debris may cause or cover a serious problem. Clean all metal surfaces.

(2) *Bolts, nuts and screws*. Check bolts, nuts and screws for obvious looseness, missing, bent, or broken condition. Look for chipped paint, bare metal, or rust around boltheads. If any part seems loose, tighten it, or have the part repaired or replaced.

(3) *Welds*. Look for loose or chipped paint, rust, or gaps on welds. If a bad weld is found, notify Unit Maintenance.

(4) *Electrical wires and connectors*. Look for cracked or broken insulation, bare wires and loose or broken connectors. Tighten loose connectors and make sure wires are in good shape. If a wire or connector is bad, notify Unit Maintenance.

(5) *Fluid lines and fittings*. Look for wear, damage and leaks, and make sure clamps and fittings are tight. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out and can not be fixed with tools available, notify Unit Maintenance.

(6) *Air system components*. Look for worn, damaged or leaking components. Make sure clamps and fittings are tight. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, either repair or replace it, or notify Unit Maintenance.

2-6. WARNINGS AND CAUTIONS.

Always observe the warnings and cautions appearing in your PMCS table. Warnings and cautions appear before applicable procedures. You must observe these warnings and cautions to prevent serious injury to yourself and others or prevent equipment from being damaged.

2-7. EXPLANATION OF TABLE ENTRIES.

a. Item Number Column. Items in this column are for reference. When completing DA Form 2404 (Equipment Inspection and Maintenance Worksheet), include the item number for the check/service indicating a fault. Item numbers also appear in the order that you must do the checks and services for the intervals listed.

b. Interval Column. This column describes when, and how often, the check is to be made. Thus, if a given check is performed before operation, the word Before is opposite the check in the Interval column.

(1) Perform the (Before) CHECKS before operating truck.

(2) Perform the (During) CHECKS while operating truck. During operation means to monitor truck and its related components while being operated.

(3) Perform the (After) CHECKS right after operating the truck.

(4) Perform the (Weekly) CHECKS once a week.

(5) Perform the (Monthly) CHECKS once a month.

(6) Perform the (Semi-Annual) CHECKS once every six months.

c. Item To Be Inspected Column. The items listed in this column are divided into groups indicating the portion of the equipment of which they are a part, i.e. front, left, engine. Under these groupings a few common words are used to identify the specific item being checked.

d. Procedures Column. This column contains a brief description of the procedure by which the check is performed.

e. Equipment Is Not Fully Mission Capable If: Column. This column contains the criteria that causes the equipment to be classified as NOT READY/NOT AVAILABLE because of inability to perform its primary mission. An entry in this column will:

(1) Identify conditions that will make the equipment not ready/available for readiness reporting purposes.

2-8. SHORTENED MAINTENANCE INTERVALS.

Extreme weather conditions, periods of high use, or combat conditions may dictate that PMCS is performed more often than is required in the PMCS Tables.

2-9. LUBRICATION REQUIREMENTS.

For lubrication requirements and procedures, refer to Appendix G.

2-10. LEAKAGE CLASSIFICATION AND DEFINITION.

CAUTION

Equipment operation is allowable with minor leak (Class I or II). Consideration must be given to the fluid capacity in the item/system being checked/inspected. When in doubt, notify the supervisor. When operating with Class I or II leaks, continue to check fluid levels as required in the PMCS. Class III leaks should be repaired using tools available, if possible. If not, use "Not Fully Mission Capable" column criteria.

NOTE

- If leakage is detected, further investigation is needed to determine the location and cause of the leak. If there is any doubt, contact your supervisor or Unit Maintenance.
- Diesel engine slobber is an inherent condition of two cycle diesel engines when engines are allowed to idle for prolonged periods of time. This characteristic may be incorrectly interpreted as a Class III leak. Check engine oil level. If there is any doubt, consult with your supervisor or Unit Maintenance.

a. Class I. Leakage of fluid as indicated by wetness or discoloration not great enough to form drops.

b. Class II. Leakage of fluid great enough to form drops but not enough to cause drops that fall from item being checked/inspected.

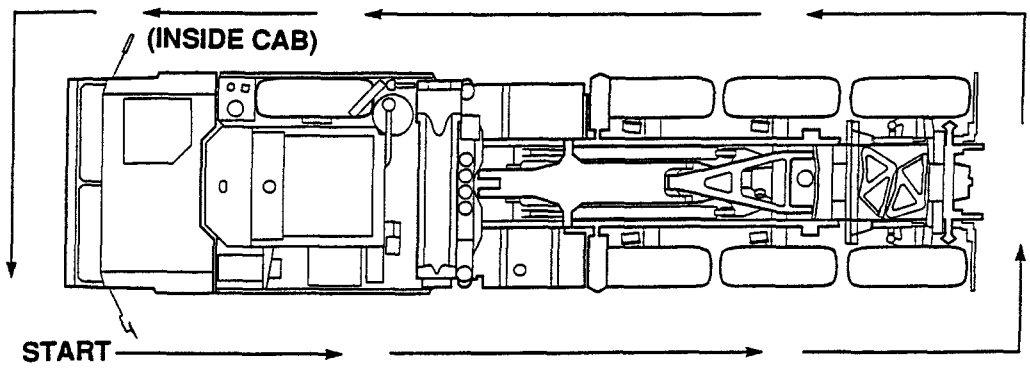
c. Class III. Leakage of fluid great enough to form drops that fall from the item being checked/inspected. Try to fix leak using tools available.

2-11. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES TABLES.

WARNING

Engine must be shut off and parking brake set before performing PMCS walkaround. Severe injury to personnel may result.

Refer to Tables 2-1 through 2-5 for Operator's Preventive Maintenance Checks and Services (PMCS) for all M1074 and M1075 trucks. This routing diagram (Figure 2-24) will be of help to complete the PMCS. It shows the general path an operator will follow to complete the PMCS.



View From Above

Figure 2-24. PMCS Walkaround

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before)

Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
	NOTE • If leakage is detected, further investigation is needed to determine the location and cause of the leak. If there is any doubt, contact your supervisor or Unit Maintenance. • Diesel engine slobber is an inherent condition of two cycle diesel engines when engines are allowed to idle for prolonged periods of time. This characteristic may be incorrectly interpreted as a Class III leak. Check engine oil level. If there is any doubt, consult with your supervisor or Unit Maintenance.			
1	Before	Leaks	Check underneath truck for evidence of obvious fluid leakage.	Class III leak is evident.
2	Before	Cab	Visually check left side of cab for obvious damage that would impair operation.	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

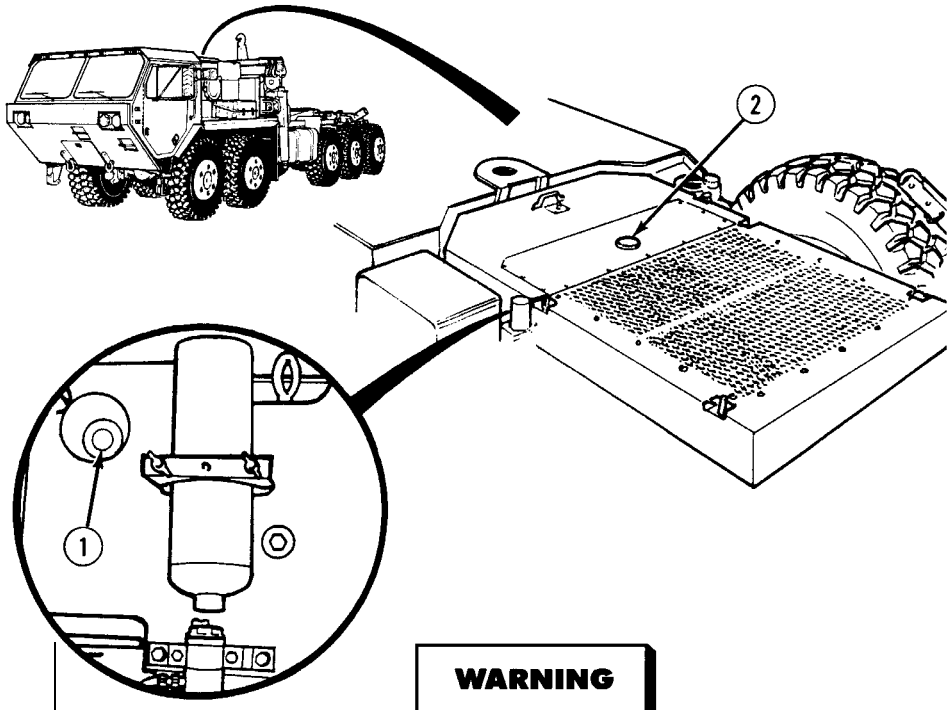
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING Do not remove the radiator cap when the engine is hot; steam and hot coolant can escape and burn personnel.	
			CAUTION Ensure radiator fins and grille are clear of debris (leaves, mud, etc.) or damage to engine may result.	
			NOTE The ladder is needed for the following procedures.	
3	Before	Radiator Coolant	Check that coolant is visible in sight glass (1). Sight glass will show green when full. If fluid is not visible, open radiator cap (2) and check to see if coolant is visible. Add coolant as required.	Coolant not visible in sight glass or more than 1 1/2 in. (3.8 cm) below filler neck.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

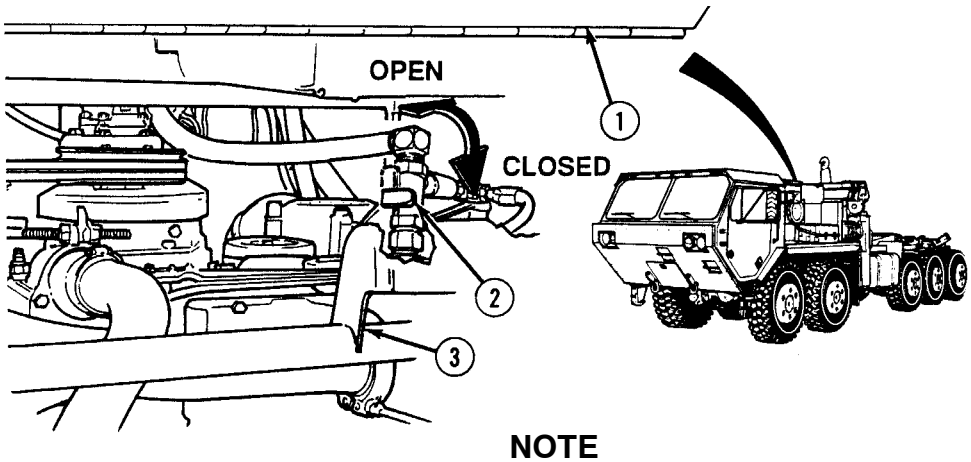
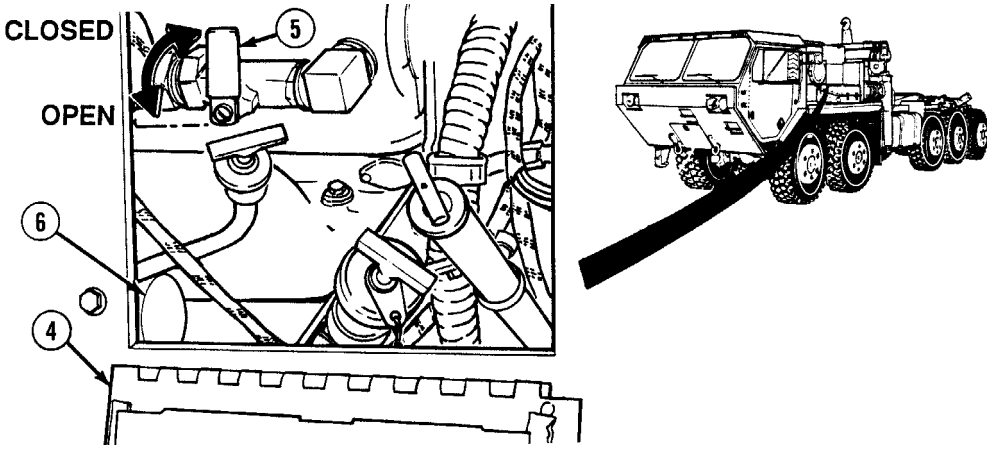
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE Ladder is required for the following check.	
4	Before	Arctic Heater Kit (Model A)	(a) Open engine access cover (1). (b) Open valve (2) at front right thermostat housing (3).	
				
			(c) Open side access cover (4) and open valve (5) above starter (6).	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

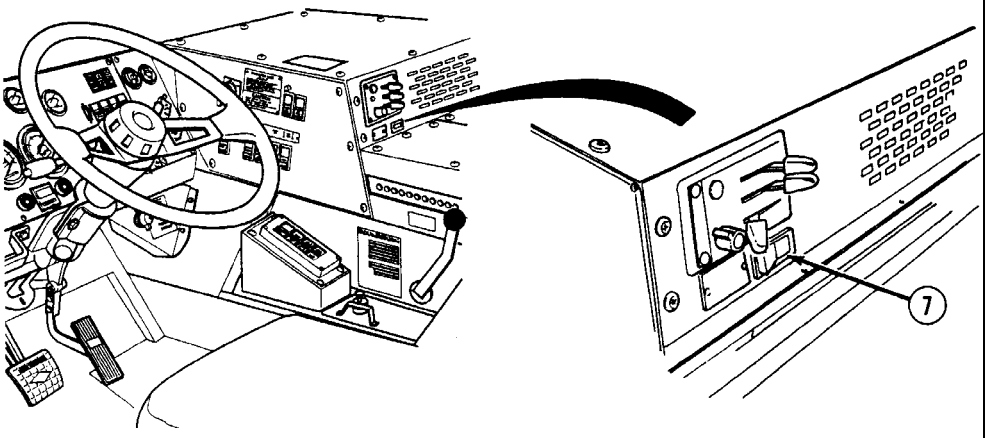
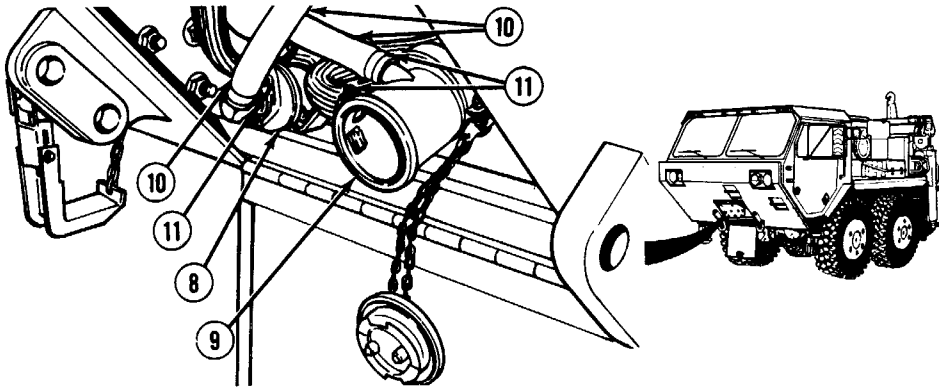
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
4	Before	Arctic Heater Kit (Model A) - Cont.	(d) Place arctic heater switch (7) to the ON position. Audible sound from pump indicates coolant pump is operating.	Coolant pump not operating.
				
			(e) Check coolant pump (8) and water jacket (9) for security of mounting and obvious damage.	Damage present that would prevent proper operation.
			(f) Check coolant pump (8) for unusual noise.	
			(g) Check coolant hoses (10) for leaks, cuts, loose clamps (11) and other obvious damage.	Class III leak is evident.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

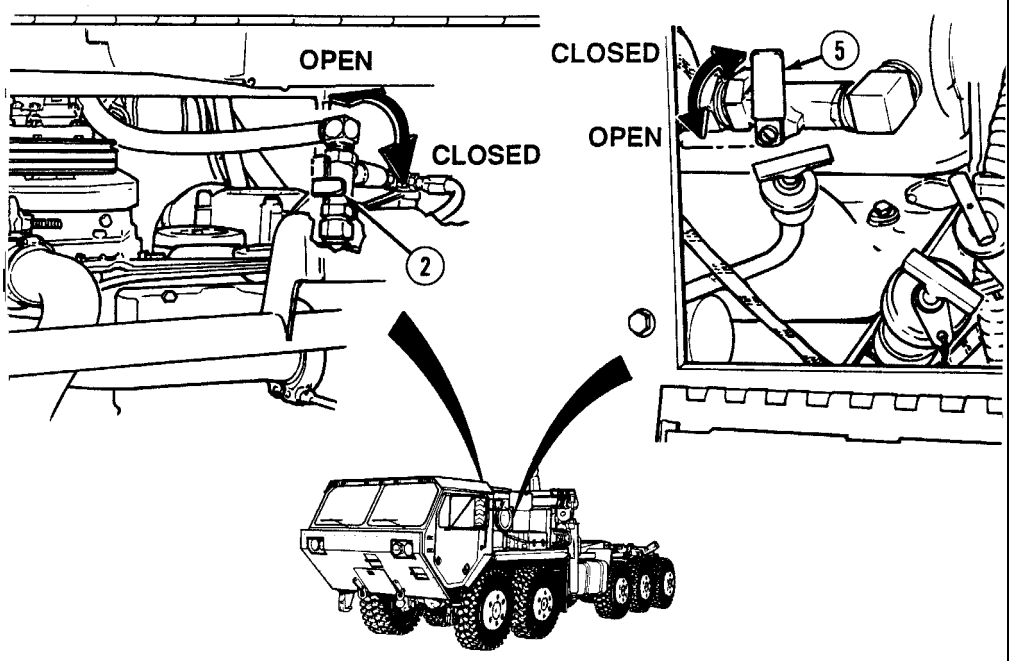
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
4	Before	Arctic Heater Kit (Model A) - Cont.	(h) Check valves (2) and (5) for leaks. Close valves (2) and (5).	Class III leak is evident.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

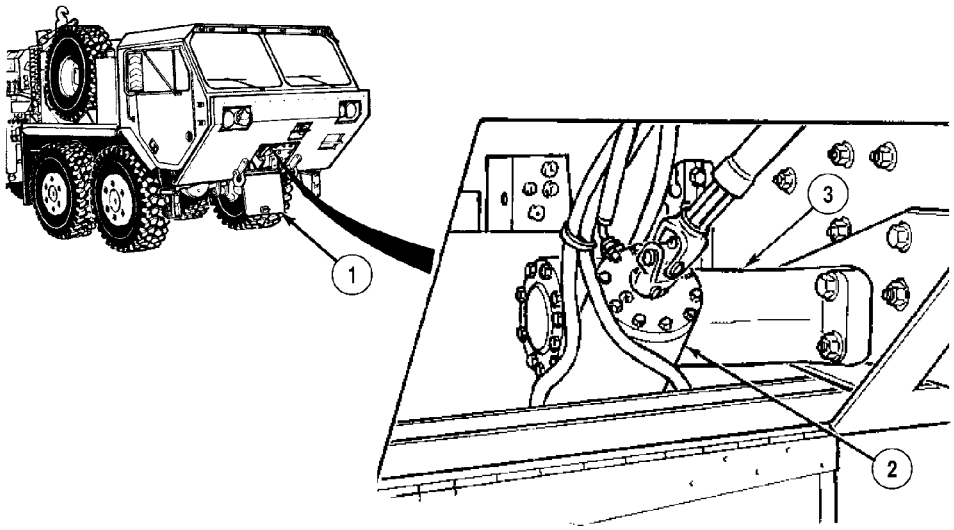
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
	NOTE If front steering gear is loose, notify Unit Maintenance to have mounting screws re-torqued (TM 9-2320-364-20).			
5	Before	Steering Gear (Front)	Open front access cover (1) and check front steering gear assembly (2) for loose or missing screws. Check if front steering gear assembly has been chafing or pivoting on front steering gear assembly mounting bracket (3).	Front steering gear assembly is loose or if screws are missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

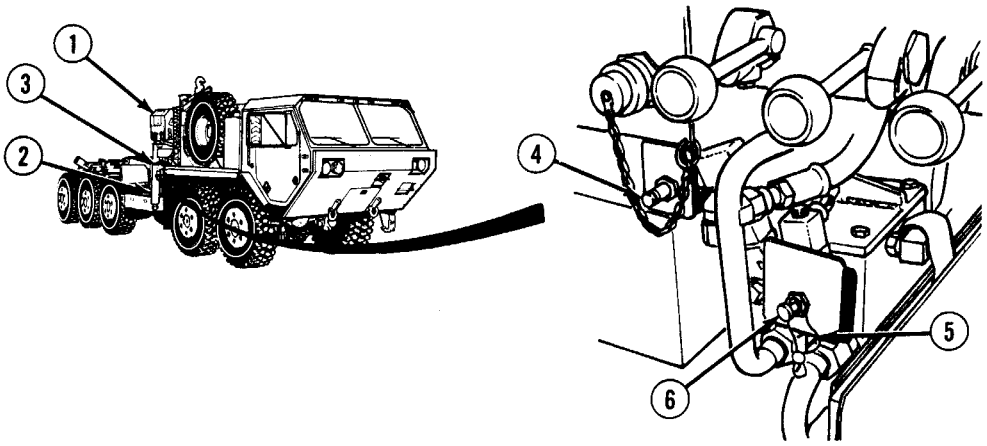
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
	NOTE Make the following check if the Material Handling Crane (MHC) is installed.			
6	Before	Material Handling Crane (MHC)	Check crane (1) for obvious damage and loose parts. Check left and right outrigger jacks (2) and valve banks (3) for damage, leaks, missing and loose parts. Check if MHC MAIN HYDRAULIC PRESSURE MANUAL OVERRIDE valve (4) is pushed in and locked. Check that safety wire and seal (5) are present on MHC SYSTEM HYDRAULIC PRESSURE MANUAL OVERRIDE button (6).	Class III leak is evident. Crane is damaged or parts are missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

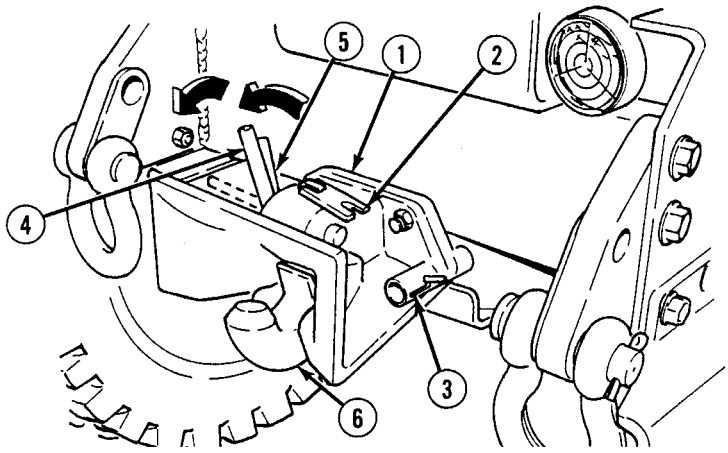
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
7	Before	Self-Guided Coupler	Check self-guided coupler (1) for obvious damage and presence of the safety latch (2). (a) Disengage swivel lock (3) and swivel self-guided coupler (1). (b) Engage swivel lock (3). (c) Open safety latch (2) away from hook lock (4). (d) Pull out on hook lock catch (5) and pull out on hook lock (4) to release hook (6). (e) Push up on hook. **WARNING** Keep fingers clear of top of lift-hook or injury to personnel could result. (f) Close safety latch.	Self-guided coupler is damaged or loose. Safety latch is missing. Self-guided coupler does not rotate freely.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

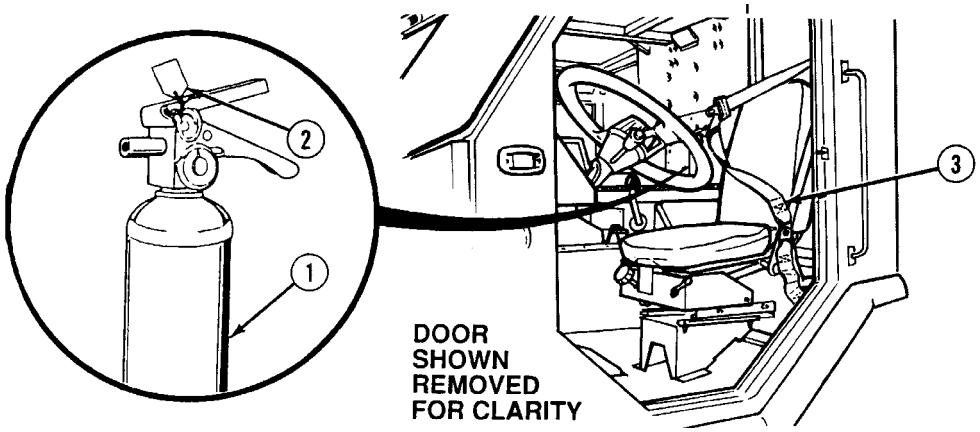
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
8	Before	Cab	Visually check right side of cab for obvious damage that would impair operation.	
				
9	Before	Fire Extinguisher	Check for missing, damaged and loose fire extinguisher (1). Check for proper pressure/seal (2) condition.	Fire extinguisher is missing, or damaged. Pressure gage needle in red area or seal is broken.
			NOTE Operation of truck without seat belts may violate AR 385-55.	
10	Before	Seat Belts	Check seat belts (3) for proper operation.	Seat belts do not operate properly.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

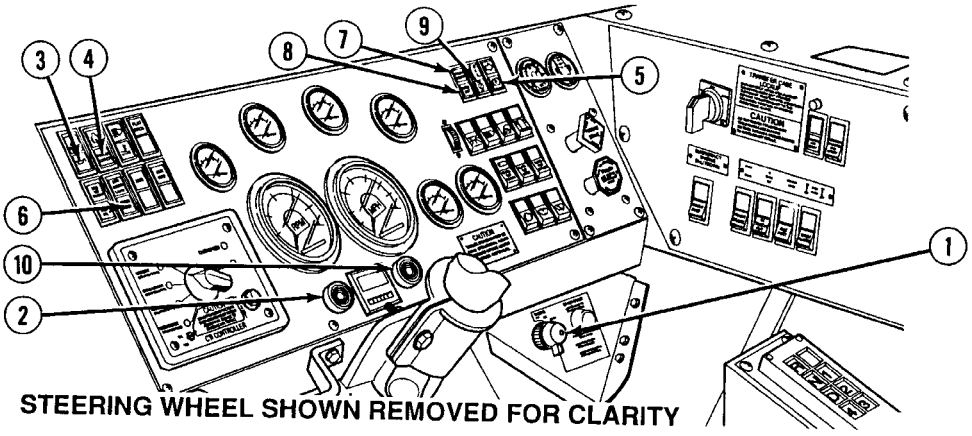
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
 STEERING WHEEL SHOWN REMOVED FOR CLARITY				
	NOTE The following checks must be made with the ignition switch in the ON position.			
11	Before	Controls and Indicators	(a) Turn ignition switch (1) to ON position.	
			(b) Oil/water alarm (2) buzzes, LOW OIL pressure light (3), TRANS CHECK light (4), PARKING BRAKE light (5) and EMERGENCY STEERING light (6) will light. The CHECK ENGINE light (7) and CHECK GAGES light (8) will light for approximately five seconds and then go out.	Buzzer inoperative.
			(c) LOW AIR PRESSURE light (9) will light and LOW AIR PRESSURE warning intermittent buzzer (10) will sound if air pressure is below 60 psi (413 kPa).	Buzzer does not sound below 60 psi (413 kPa).

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

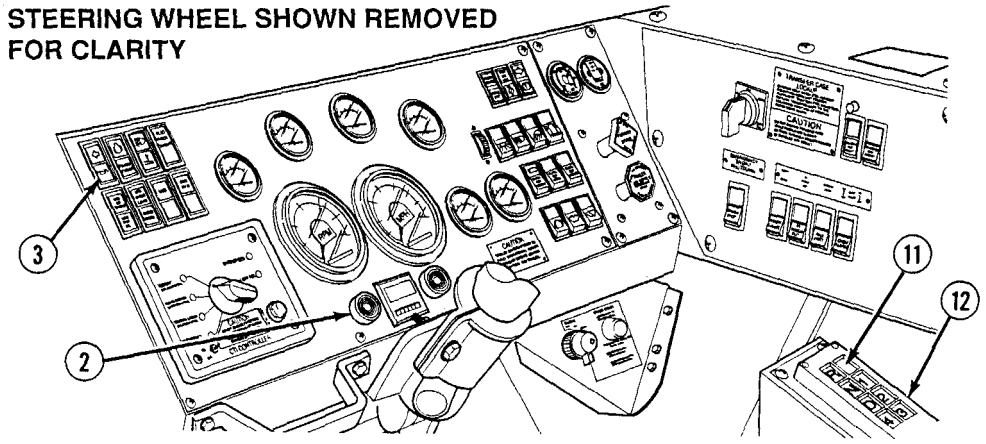
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
11	Before	Controls and Indicators - Cont.	(d) DO NOT SHIFT light (11) will flash and beep briefly. A light will appear on the TRANSMISSION RANGE SELECTOR (12) indicating what range the transmission is in. The transmission should be in Neutral (N) position. (e) All other gages, lights and switches will light with their convenience illumination.	
			NOTE The following checks must be made while the engine is running.	
			(f) Start engine.	Engine will not start.
			(g) Oil/water alarm (2) and LOW OIL pressure light (3) will shut off.	Light stays on.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

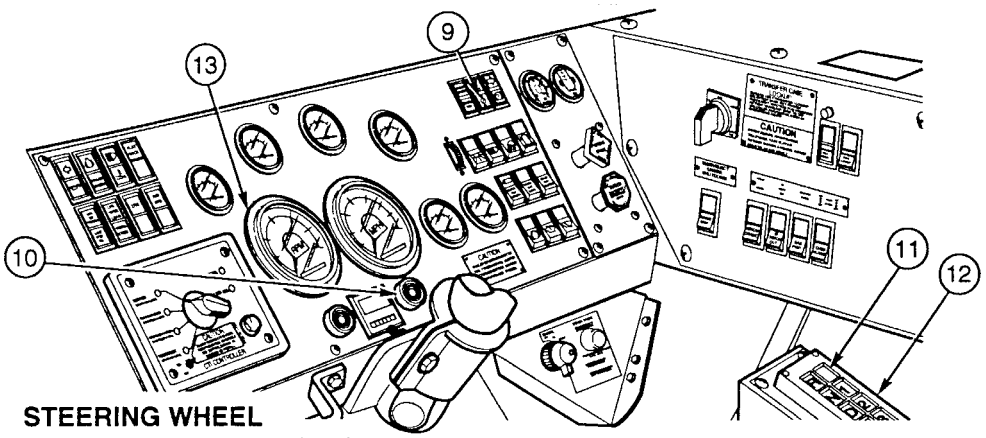
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
 STEERING WHEEL SHOWN REMOVED FOR CLARITY				
11	Before	Controls and Indicators - Cont.	(h) LOW AIR PRESSURE light (9) and LOW AIR PRESSURE warning intermittent buzzer (10) will sound and then turn off when pressure is above 60 psi (414 kPa). (i) DO NOT SHIFT light (11) will flash briefly and then extinguish. A light will appear on the TRANSMISSION RANGE SELECTOR (12) indicating what range the transmission is in. The transmission should be in Neutral (N) position at start. (j) Tachometer (13) must indicate correct idle of 625 to 675 rpm.	Buzzer does not sound below 60 psi (414 kPa). Tachometer does not indicate between 625 and 675 rpm.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

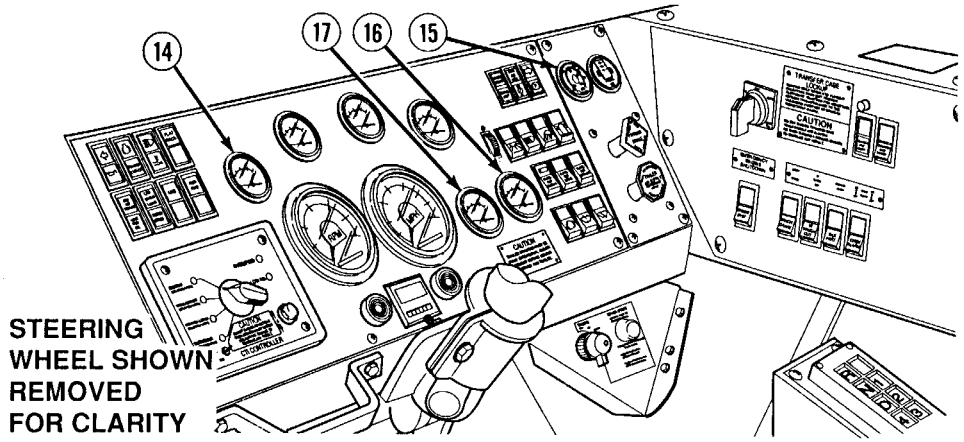
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE Cold engines may have slightly higher oil pressure reading than a hot engine.	
11	Before	Controls and Indicators - Cont.	(k) Check oil pressure gage (14). Pressure gage must read between 40 to 80 psi (276 to 552 kPa) with engine speeds between 1800 and 2100 rpm. Minimum pressure for safe operation is 30 psi (207 kPa). At idle, minimum oil pressure should not be less than five psi (34 kPa).	Engine oil pressure is not within allowable pressures, and engine oil warning light lights or warning buzzer sounds.
			(l) Check that the AIR PRESS gage (15) is within the normal operating range of 110 to 125 psi (758 to 862 kPa).	Air pressure is not within limits or warning buzzer sounds.
			(m) Check battery gages (16 & 17) for normal voltage output of 26 to 30 volts and 13 to 15 volts.	Voltage is not between the proper operating ranges.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

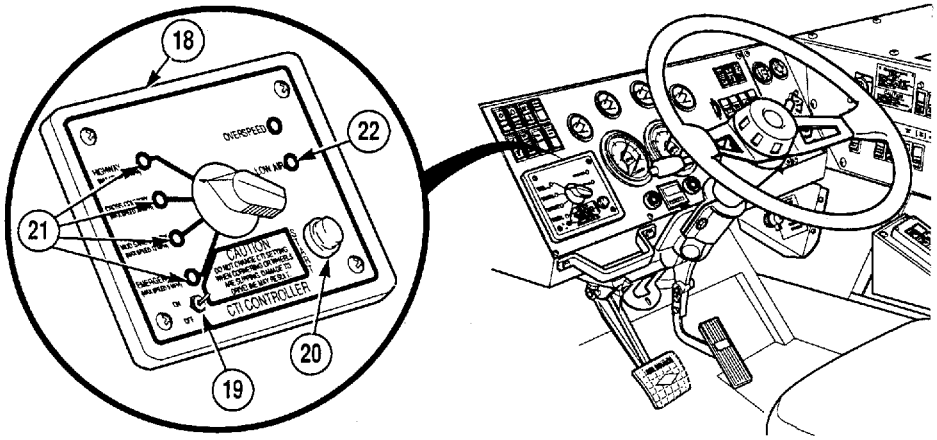
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
11	Before	Controls and Indicators - Cont.	(n) Check the CTIS (18) for proper operation. (1) Place CTIS ON/OFF switch (19) to ON position. (2) Press START button (20) and hold for one second. (3) Lights (21) will light momentarily and go out. (4) A solid LOW AIR light (22) will illuminate if trucks air system pressure is too low. A flashing LOW AIR light indicates a CTIS leak or malfunction. (5) Lights (21) will blink when tires are filling and will stay steady when tires are filled to desired setting.	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

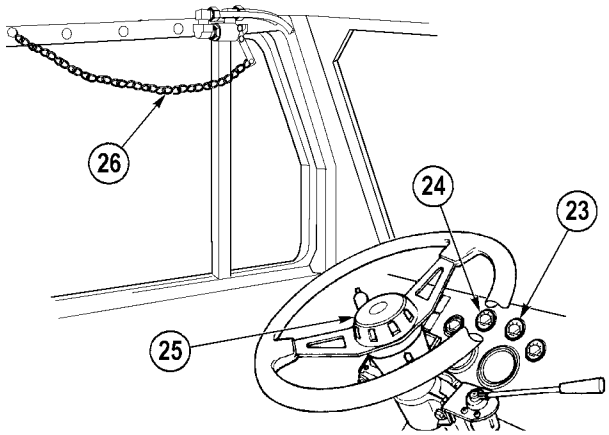
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE At idle speed, automatic transmission may not reach normal operating temperature. Gage may not register until oil is hot.	
11	Before	Controls and Indicators - Cont.	(o) Check transmission oil temperature gage (23). Normal operating TRANS TEMP gage reading is between 180 to 220 degrees F (82 to 104 degrees C).	Gage is inoperable or reads over 300 degrees F (149 degrees C).
			NOTE At idle, engine may not reach 180 degrees F (82 degrees C) water temperature.	
			(p) Check water temperature gage (24) for proper water temperature range between 180 to 230 degrees F (82 to 110 degrees C). (q) Check for proper operation of electric horn (25). (r) Check for proper operation of air horn (26) (if equipped). (s) Remove wheel chocks.	Water temperature gage inoperable or exceeds 230 degrees F (110 degrees C) at idle or warning buzzer sounds.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

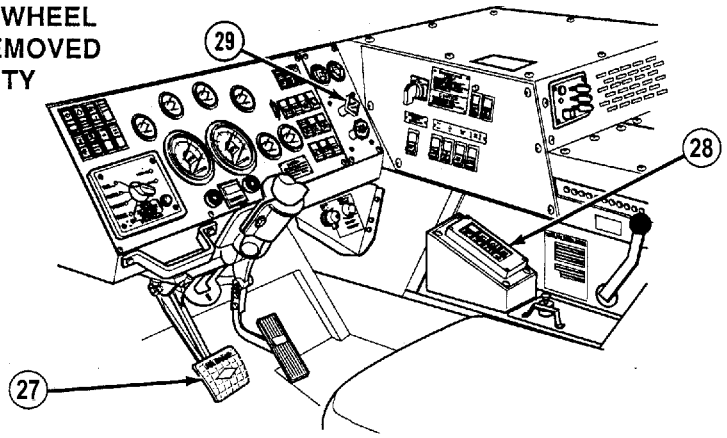
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
STEERING WHEEL SHOWN REMOVED FOR CLARITY 				
11	Before	Controls and Indicators - Cont.	(t) Check for proper operation of transmission. (1) Apply service brake pedal (27). (2) Place transmission range selector switch (28) in Drive (D). (3) Release parking brake (29). (4) Release service brake pedal (27). Allow truck to move forward approximately two ft. (61 cm). (5) Apply service brake pedal (27). (6) Place transmission selector switch (28) in Reverse (R). (7) Release service brake pedal (27) and allow truck to move backwards approximately two ft. (61 cm). (8) Apply service brake pedal (27).	Truck will not move in forward or reverse.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

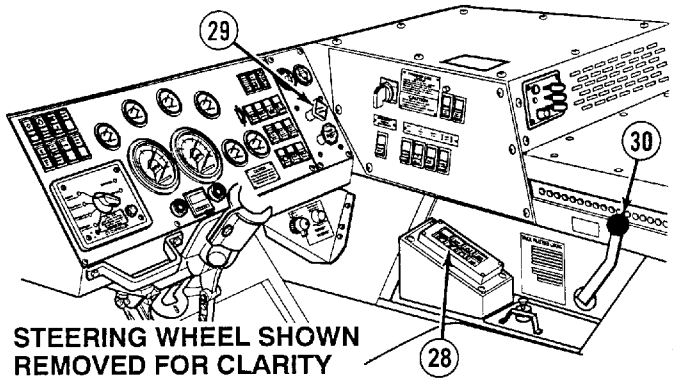
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
11	Before	Controls and Indicators - Cont.	(9) Place transmission range selector switch (28) in Neutral (N). (10) Set parking brake (29).	
			NOTE Transfer case may be hard to shift and get into gear. If this condition exists, move truck forward slightly, apply brake and place transmission to Neutral (N), prior to attempting to shift transfer case again.	
			(u) Check transfer case shift lever (30) to be sure it will shift to HI (HI) and LOW (LO) range. (1) Place transmission range selector switch (28) in Neutral (N). (2) Move transfer case shift lever (30) to LOW (LO) and then to HI (HI).	Transfer case does not operate in range required for mission.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

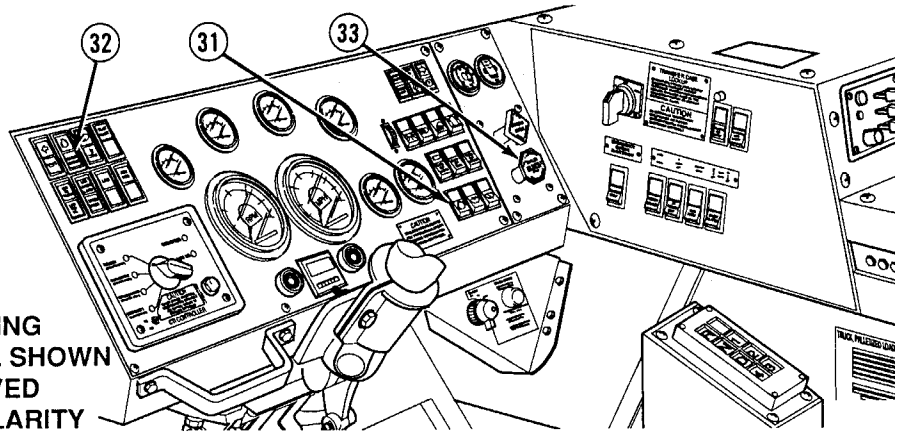
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 STEERING WHEEL SHOWN REMOVED FOR CLARITY	
			NOTE Transfer case may be hard to shift and get into gear. If this condition exists, move truck forward slightly, apply brake and place transmission to Neutral (N), prior to attempting to shift transfer again.	
11	Before	Controls and Indicators - Cont.	(v) Check ENGINE BRAKE SWITCH (31) for operation. Place transfer case shift lever in Neutral (N) and transmission in Drive (D). Set ENGINE BRAKE SWITCH (31) to high position, engine brake light (32) will light, accelerate engine to approximately 1800 rpm for five seconds. Quickly release the throttle pedal. Decompression of engine will be heard in the exhaust tone. Place transmission in Neutral (N) and transfer case shift lever in HI (HI).	Engine brake is operative.
			(w) Check operation of the trailer air supply control (33).	Trailer air supply does not operate properly.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

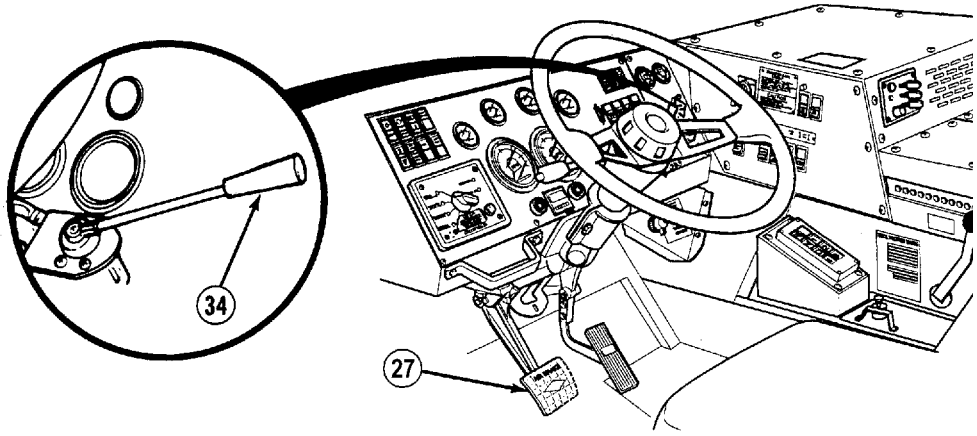
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING Before performing the next step, ensure that no personnel are in front of truck. Be ready to apply the service brake. Operator must remain in cab while performing this check to prevent possible serious injury or death to other personnel. **NOTE** • Check trailer brake hand control only if a trailer is attached to the truck and truck air lines are attached to trailer air lines or test will not be correct. • Ensure air pressure is between 110 to 125 psi (758 to 861 kPa).	
11	Before	Controls and Indicators - Cont.	(x) Check operation of trailer handbrake control (34). (1) With engine at idle, apply service brake pedal (27). (2) Engage transmission range selector to Drive (D).	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

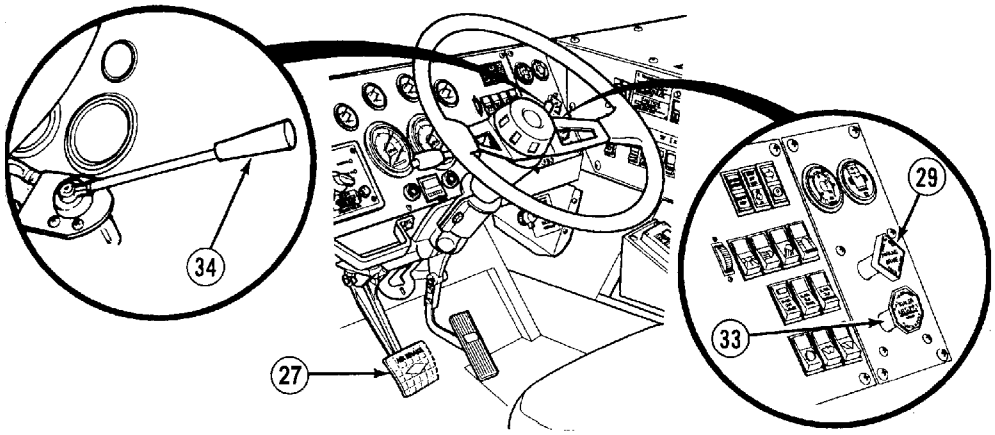
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
11	Before	Controls and Indicators - Cont.	(3) Fully apply trailer handbrake control (34) by pulling downward. (4) Release service brake pedal (27). (5) Gradually increase engine speed to 900 rpm. (6) Trailer brakes should hold truck in place. (7) Reduce engine rpm to idle. (8) Apply service brake pedal (27). (9) Release trailer handbrake (34). (10) Apply parking brake (29) and pull out trailer air supply control (33). (11) Engage transmission range selector to Neutral (N).	Trailer brakes do not hold truck in place.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

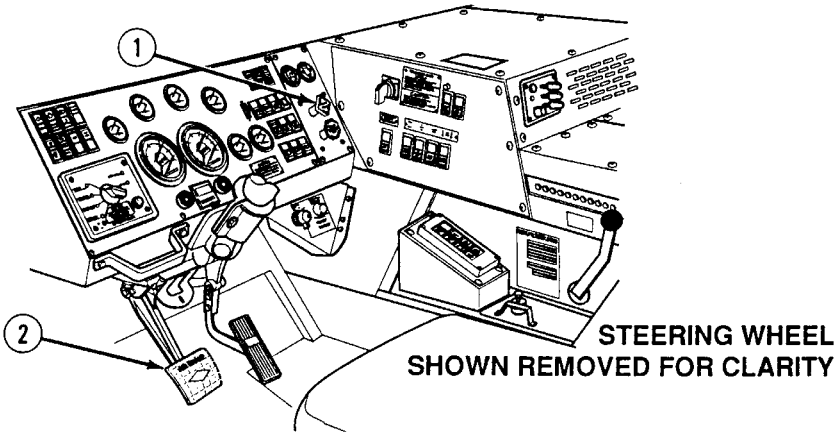
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING • Before performing the next step, ensure that no personnel are in front of truck. Be ready to apply the service brake. Operator must remain in cab while performing this check to prevent possible serious injury or death to other personnel. • Ensure air pressure is between 110 to 125 psi (758 to 861 kPa) or injury to personnel may result.	
12	Before	Service and Parking Brake	(a) Check for proper operation of parking brake (1). With engine at idle, apply parking brake and engage transmission in Drive (D). Increase engine speed slowly to 1000 rpm. Truck should not move.	Truck moves.
			(b) Check brakes by moving truck approximately 60 ft. (18.3 m) and steadily apply service brake pedal (2). Truck should stop smoothly without noticeable side pull and vibration. Place transmission in neutral.	Service brakes do not operate properly or pull to either side.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

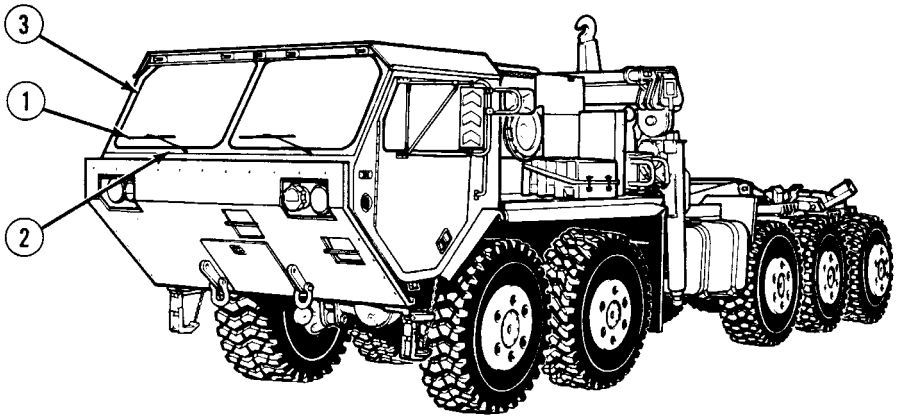
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE Operation of truck with inoperative windshield wipers or cracked windshield may violate AR 385-55.	
13	Before	Wiper Arms and Blades	(a) Check that wiper arms (1) operate and blades are serviceable. (b) Check windshield washer (2) for proper operation.	
14	Before	Windshield	Check for cracked windshield (3).	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

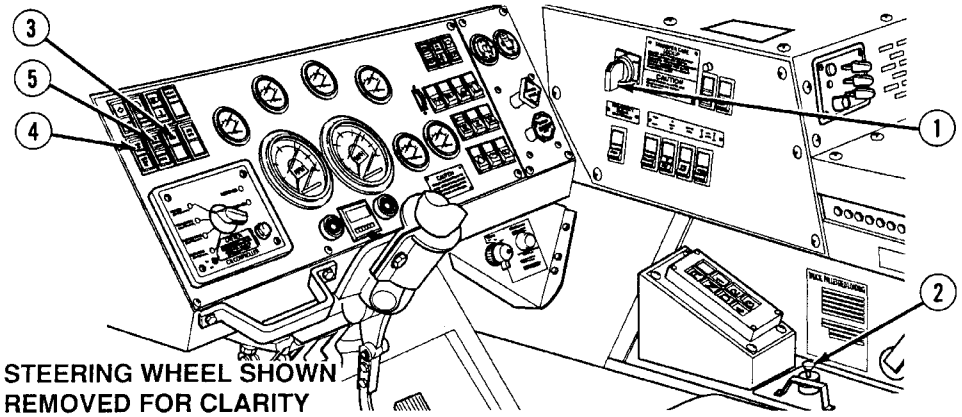
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
 STEERING WHEEL SHOWN REMOVED FOR CLARITY				
			WARNING Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. two in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.	
15	Before	Load Handling System (LHS) Controls	(a) Check for proper operation of hydraulic selector switch (1) and joystick control (2). Verify by placing hydraulic selector switch (1) in the AUTO position. (b) Pull joystick (2) to rear to raise LHS approximately one to two ft. (0.305 to 0.609 m). LHS light (3) will light green and LHS NO TRANS light (4) will light red. LHS OVERLOAD light (5) may light yellow if system is overloaded. (c) Push joystick (2) forward and lower to transport position. LHS NO TRANS light will go out.	LHS will not operate.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

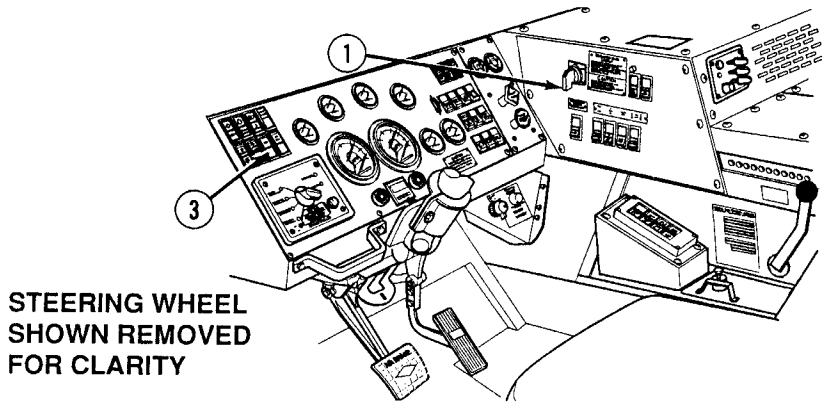
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
15	Before	Load Handling System (LHS) Controls - Cont.	(d) Turn hydraulic selector switch (1) to OFF. LHS light (3) will go out. (e) Shut OFF engine.	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

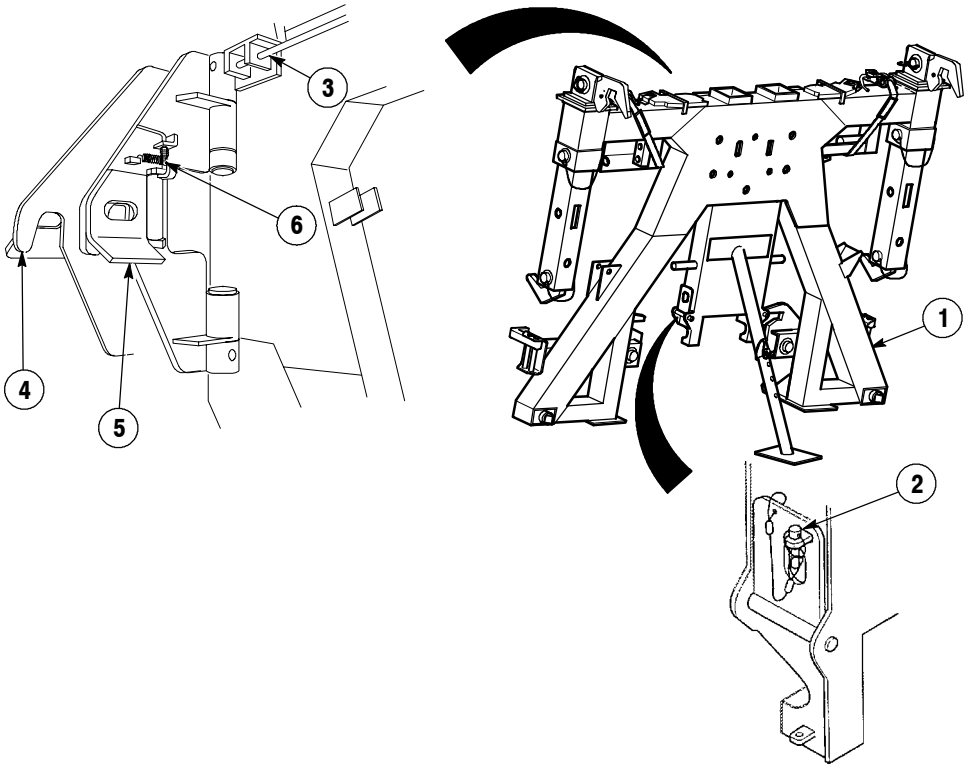
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
15.1	Before	Lifting Frame (LF)	(a) If truck is equipped with Container Handling Unit (CHU), check lifting frame (1) for missing or damaged lockpin (2). If lockpin (2) is missing or damaged, remove one from rail transport lock for temporary use as replacement.	Parts are damaged or missing.
			(b) Check flipper lock pin handle (3), flipper bracket (4), flipper bracket lockplate (5) and pin (6) for damage and/or rotate freely.	Parts are damaged or missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

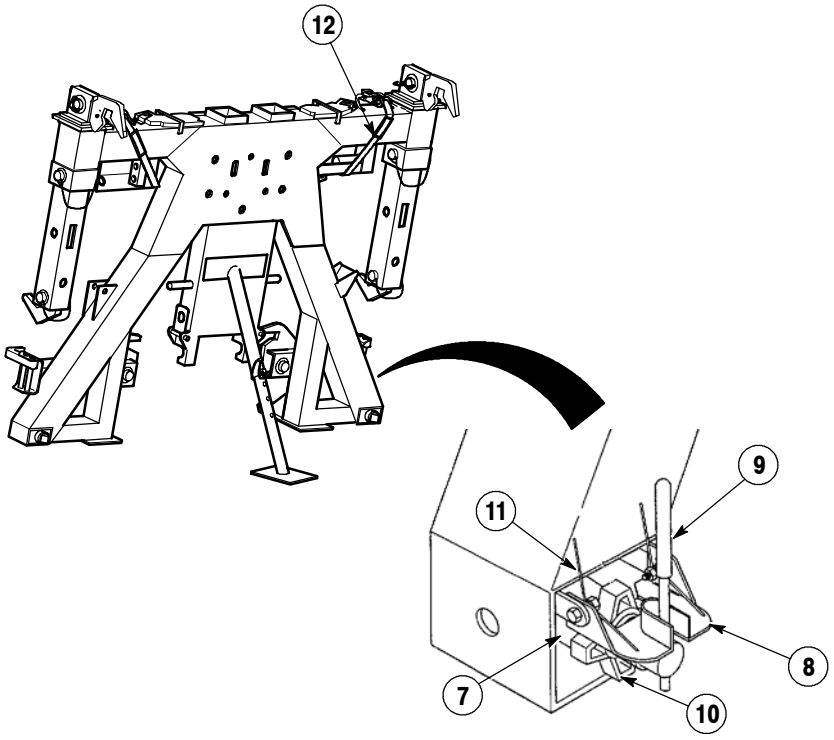
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
15.1	Before	Lifting Frame (LF) - (Cont)	(c) Check container locks (7) for damage and/or rotate freely.	Parts are damaged or missing.
			(d) Check for damaged or missing handle lock (8), handle (9), hand nut (10) or spring (11).	Parts are damaged or missing.
15.2	Before	Stow Straps (LF)	If truck is equipped with Container Handling Unit (CHU), check for damaged or missing stow straps (12).	Parts are damaged or missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

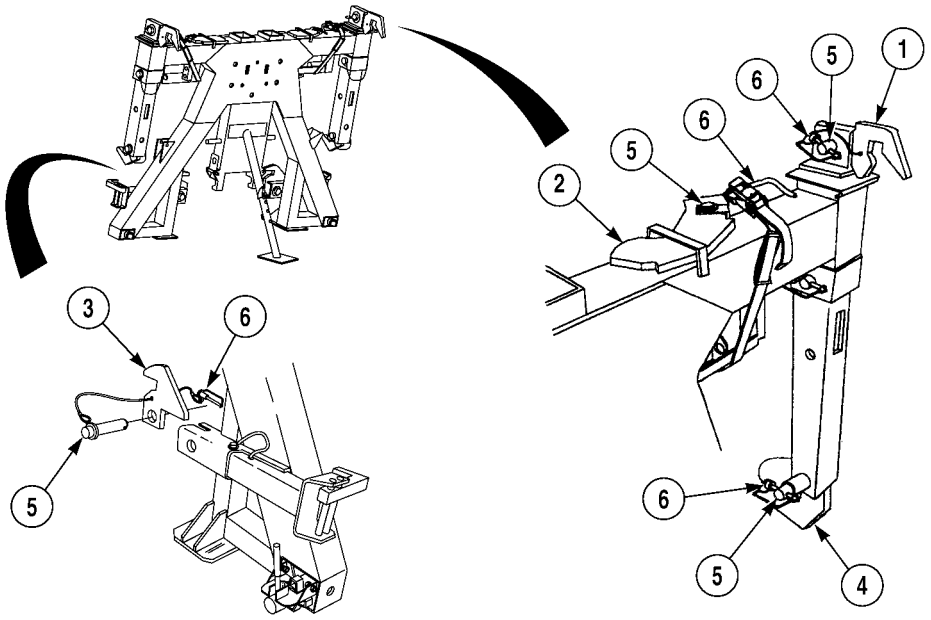
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE If hooks are missing or removed to replace lost pins, hook on opposite side must also be removed to maintain balance.	
15.3	Before	Hooks	If truck is equipped with Container Handling Unit (CHU), check standard hooks (1), six foot hooks (2), half height hooks (3), and hooks (4) for missing or damaged pins (5), and lock pins (6).	Parts are damaged or missing.
			If top hook (1), pin (5), or snapper pin (6) is damaged or missing, remove pin (5) and snapper pin (6) from 6 ft. hook. Secure top hook with pin and snapper pin, then secure 6 ft. hook in place on LF.	Parts are damaged or missing.
			If recovery hook (4), pin (5), or snapper pin (6) is damaged or missing, remove pin (5) and snapper pin (6) from lower end of rail transport strut in stowed location. Pin from slide arm could also be used.	Parts are damaged or missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

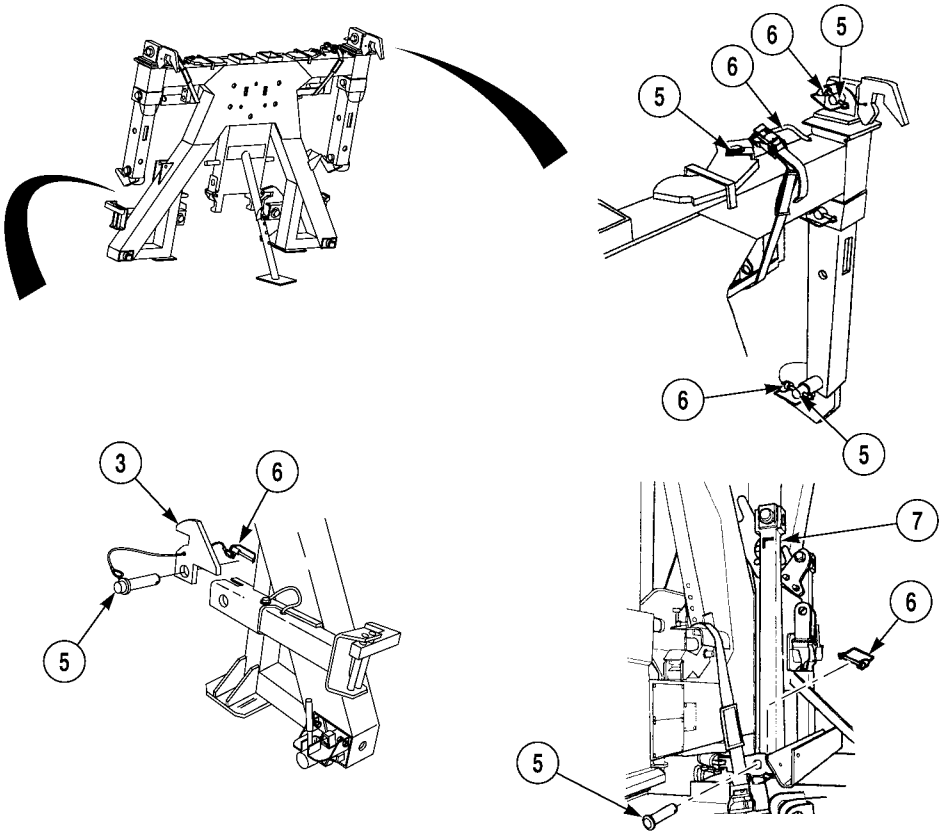
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
15.3	Before	Hooks Cont.	If half height hook (3), pin (5), or snapper pin (6) is damaged or missing, remove pin (5) and snapper pin (6) from lower end of rail transport strut (7) in stowed location. Pin will be slightly longer, but will still function in this location.	Parts are damaged or missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

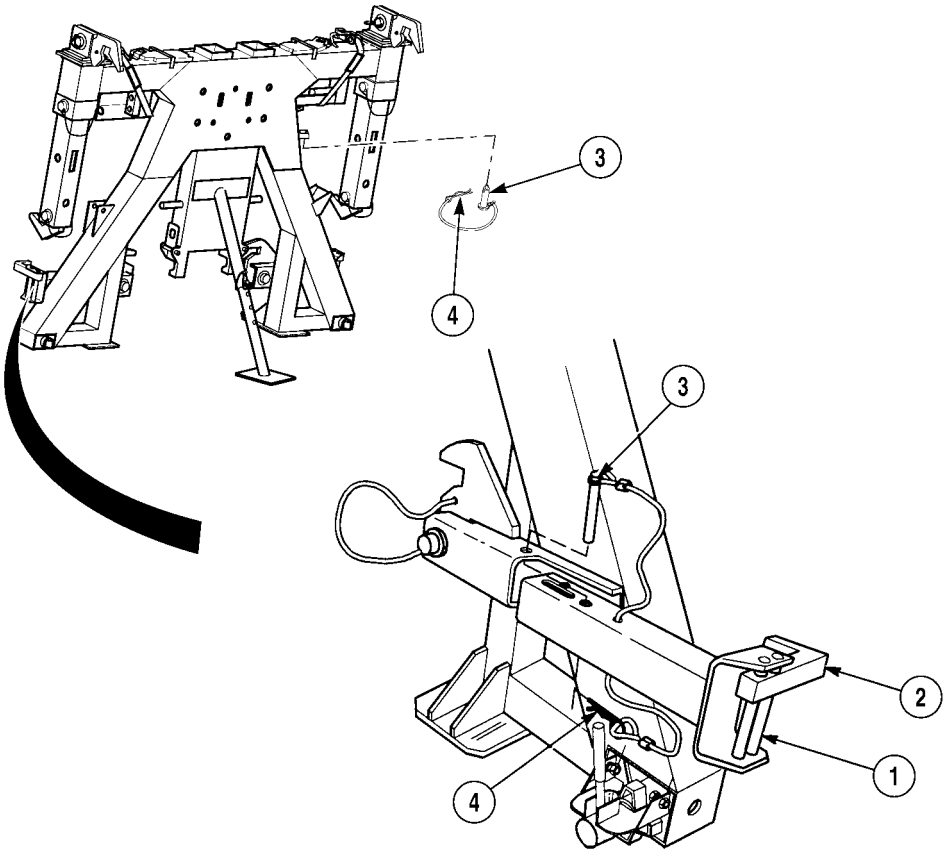
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
15.4	Before	Rear Container Locks	(a) If truck is equipped with Container Handling Unit (CHU), check rear container locks (1) for missing hooks (2). (b) Check for missing or damaged pins (3), and lock pins (4). If pin (3) or lock pin (4) is damaged or missing, container guide storage pin may be used temporarily.	Parts are damaged or missing. Parts are damaged or missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

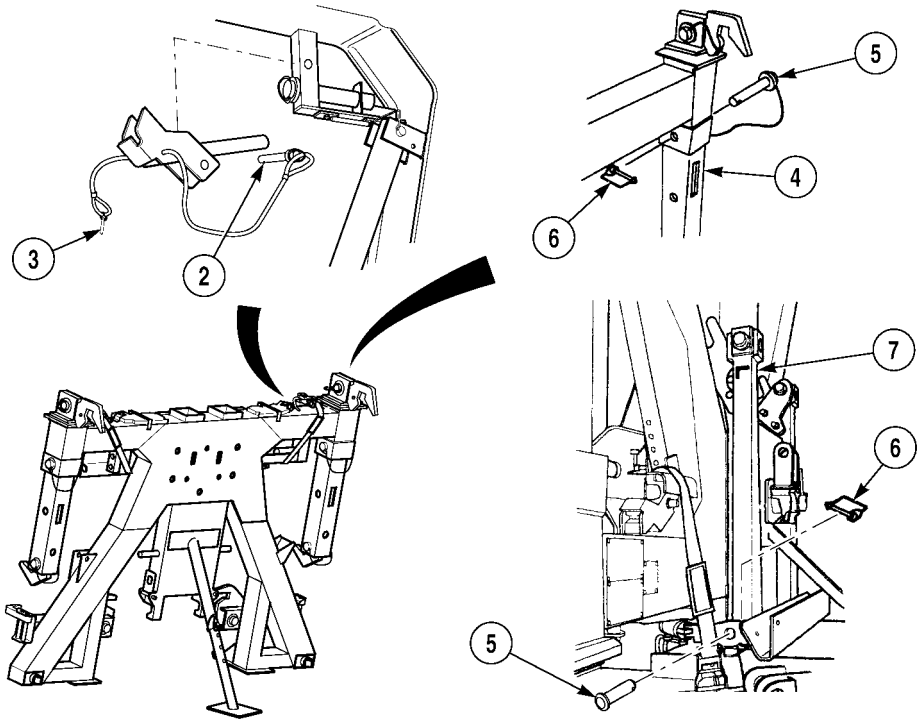
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
15.5	Before	Bail Bar Lock	If truck is equipped with Container Handling Unit (CHU), check bail bar lock (1) for missing or damaged pin (2) and lock pin (3) or deformation greater than 3/16 in. (20.6 mm).	Parts are damaged or missing.
15.6	Before	Slide Arm Weldments	(a) If truck is equipped with Container Handling Unit (CHU), ensure slide arm weldments (4) rotate freely. (b) Check for missing or damaged pins (5), and lock pins (6). If slide arm (4), pin (5), or snapper pin (6) is damaged or missing, rail transport strut (7), lower pin (5), and snapper pin (6) can be used.	Parts are damaged or missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

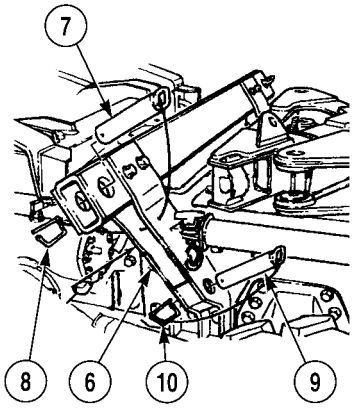
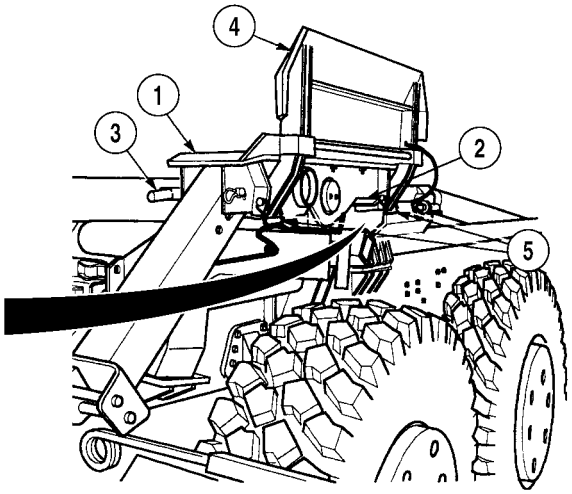
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
15.7	Before	Rear Sliders, Pivot Lock Pin and Container Lock Pivot Pin	(a) If truck is equipped with Container Handling Unit (CHU), ensure rear sliders (1) rotate freely.	Parts are damaged or missing.
			(a.a) Check slider wear plate (1.1) for any one gouge deeper than 1/4 in. (6.35 mm) or more than 80 percent of heat treat (black coating) is worn through to bare metal.	Parts are damaged.
			(b) Check pivot lock (2) for missing or damaged parts and proper operation.	Parts are damaged or missing.
			(c) Check container lock pivot pins (3) for damaged parts and proper operation.	Parts are damaged or missing.
15.8	Before	Container Guides	If truck is equipped with Container Handling Unit (CHU), check container guides (4) for missing or damaged lock pins (5).	Parts are damaged or missing.
			If container guide (4) and pins (5) are damaged or missing, the slider bracket (6), pins (9) and (7), and snapper pins (8) and (10) may be used temporarily as replacement.	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

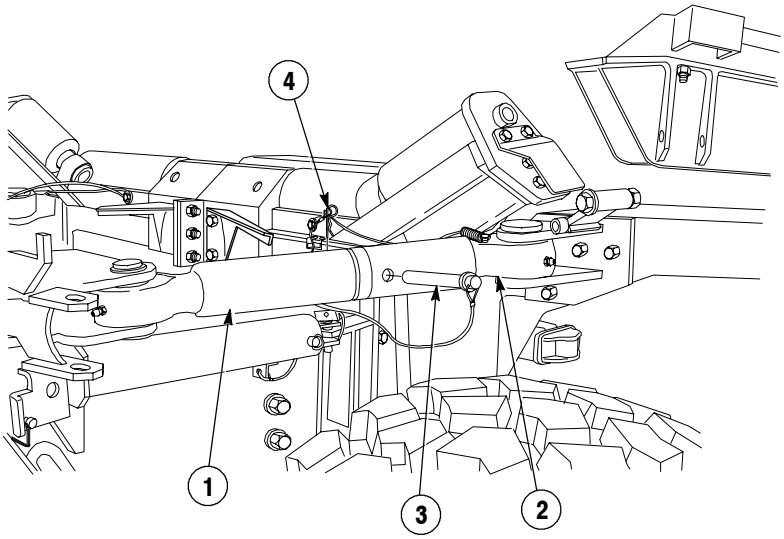
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
15.9	Before	Long and Short Strut	(a) If truck is equipped with Container Handling Unit (CHU), ensure long strut (1) and short strut (2) rotate freely. (b) Check for missing or damaged pins (3), and lock pins (4). If pin (3) or lock pin (4) is damaged or missing, temporary replacements may be removed from guide stowage location (in container mode). In flatrack mode, no pin is needed since properly stowed slider will hold long strut in stowed position.	Parts are damaged or missing. Parts are damaged or missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

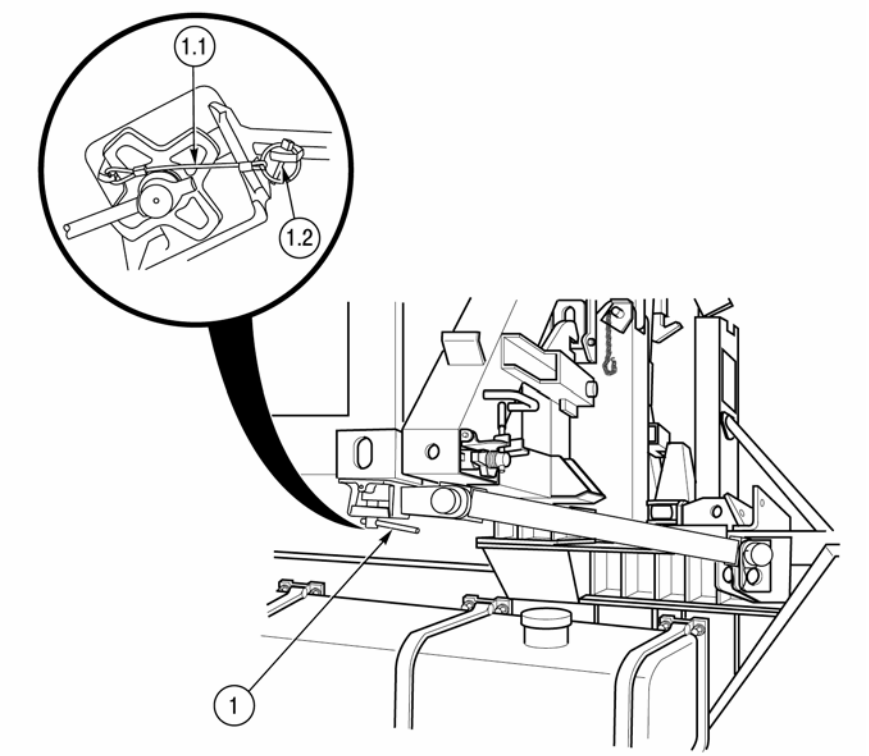
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
15.10	Before	Rail Container Locks	Check rail container locks (1) for damage and/or rotate freely, wire rope (1.1) is not frayed, cut or broken, and safety pin (1.2) is secure.	Parts are damaged or missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

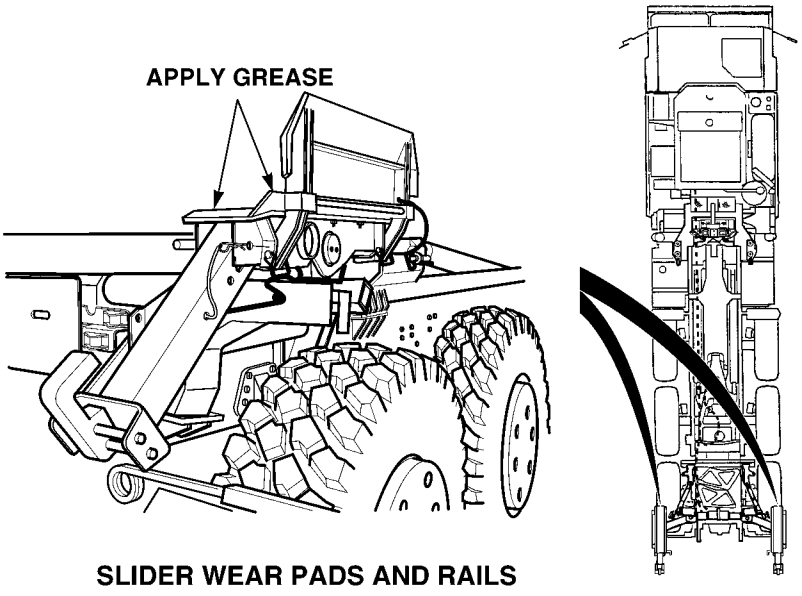
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 SLIDER WEAR PADS AND RAILS	
			CAUTION Sliders may require frequent greasing (possibly every load, depending on environment) to minimize container jerking during load/unload sequence. Container jerking can result in damage to container and/or contents.	
15.11	Before	Container Handling Unit (CHU kit)	Clean CHU slider wear pads and wear rails and coat with GAA.	Parts are damaged or missing.

Table 2-2. Operator's Preventive Maintenance Checks and Services (During)

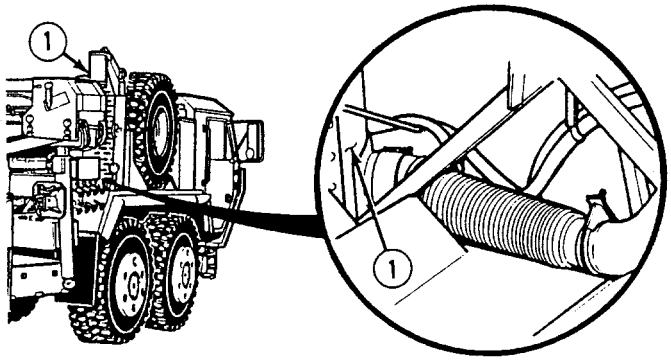
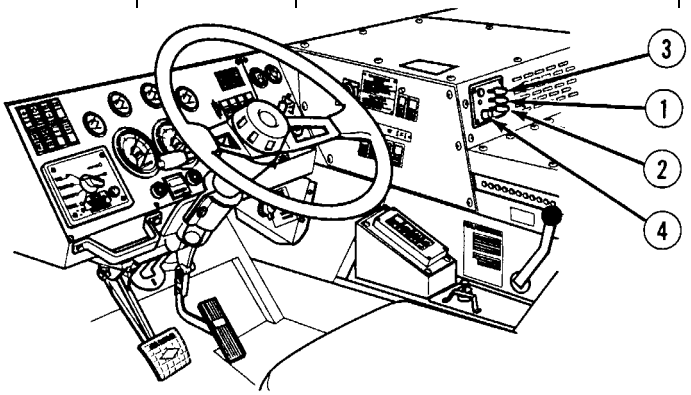
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING The exhaust pipe and muffler are very hot during truck operation. Do not touch these parts with bare hands, or allow body to come in contact with exhaust pipe or muffler. Exhaust system parts can cause serious burns.	
16	During	Exhaust System	Listen to exhaust system (1) for leaks.	Muffler or exhaust pipes are leaking exhaust fumes.
				
17	During	Heater/Fan	Check operation of the AIR (1), HEAT (2), DEFROST (3) controls and FAN switch (4).	

Table 2-2. Operator's Preventive Maintenance Checks and Services (During) - CONT.

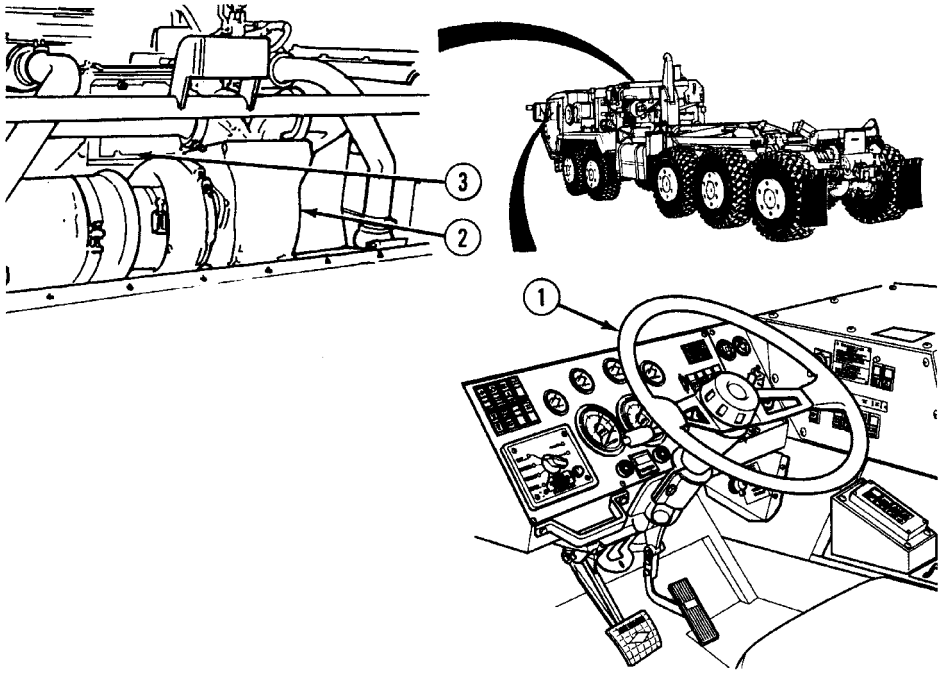
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
18	During	Controls and Indicators	Monitor all the gages, warning lights, and warning buzzers, during operation.	Warning lights or buzzers indicate a malfunction and immediate corrective action by the operator will not correct the problem.
19	During	Steering System	Turn steering wheel (1) to the left and right in a steady motion, and check for binding.	Hard to steer or steering binds.
20	During	Turbo-charger	Listen for unusual noise and vibration in turbocharger (2).	Unusual noise or vibration is noted.
21	During	Engine	Listen for unusual noise, misfiring and rough idling of engine (3). Engine rpm must be between 625 and 750 rpm at idle.	Engine is idling rough, misfiring or makes unusual noise. Tachometer does not indicate between 625 and 750 rpm.

Table 2-2. Operator's Preventive Maintenance Checks and Services (During) - CONT.

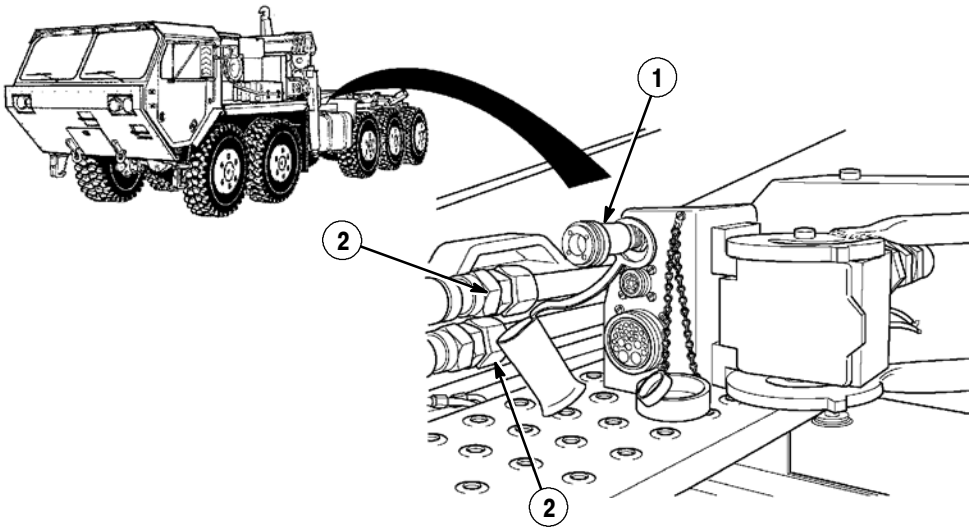
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
22	During	Interface Kit (If Equipped)	Listen for air leaks during pnenumatic (1) operation. Visually check hydraulic hoses and fittings (2) for leaks during hydraulic operation.	Class III leak is evident.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After)

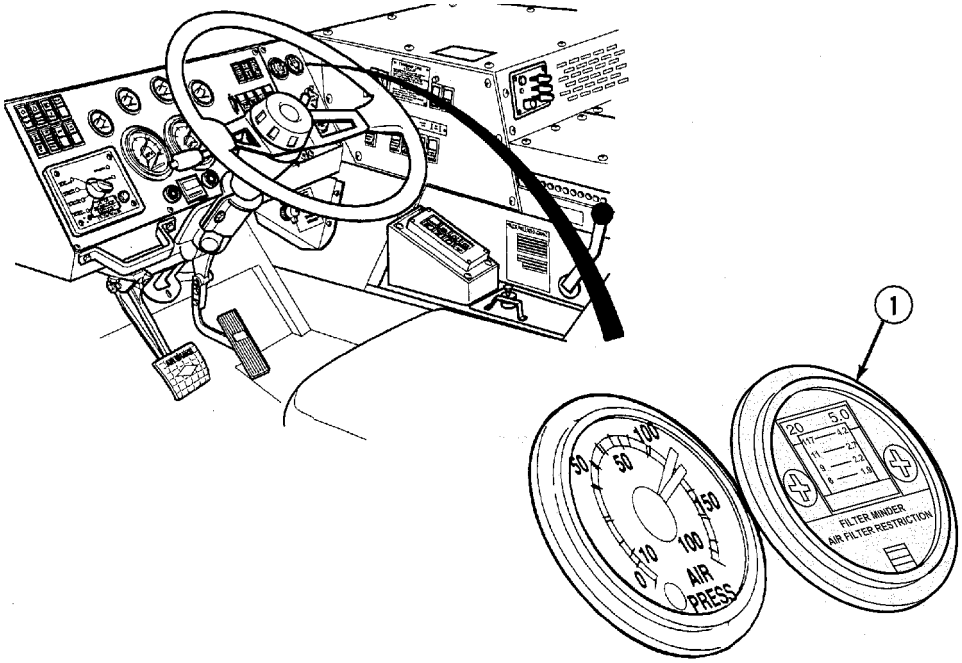
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
23	After	Air Filter Restriction Indicator	Check that air filter restriction indicator (1) reads less than 20 in. (5.0 kPa).	Indicator reads 20 in. (5.0 kPa).

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

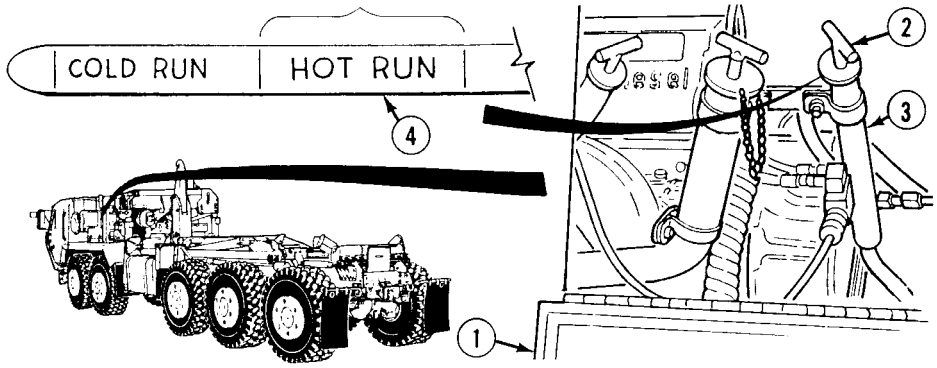
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING • Parking brake must be set before checking transmission fluid. Failure to comply may result in injury to personnel. • Transmission fluid may be hot and can cause severe burns.	
			NOTE Ladder is required for the following check.	
24	After	Transmis-sion	Ensure temperature has reached 180 to 220 degrees F (82 to 104 degrees C). With engine idling and transmission in Neutral (N). (a) Open panel (1). (b) Remove dipstick (2) from transmission fill and check tube (3) and check oil level. If oil level registered in the HOT RUN band (4), the quantity of oil in transmission is safe for operating the truck. If it registers on or below bottom line or above topline (overfull) of HOT RUN band, notify Unit Maintenance. (c) Fill as required. Shut off engine.	

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

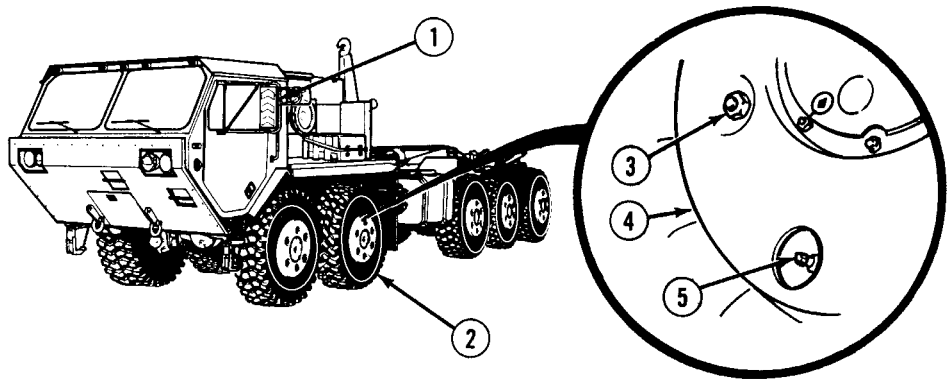
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
25	After	Mirror (Left)	Check for cracked and missing mirror (1).	
		NOTE If leakage is detected, further investigation is needed to determine the location and cause of the leak. If there is any doubt, contact your supervisor or Unit Maintenance.		
26	After	Leaks	Check underneath truck for evidence of fluid leakage.	Class III leak is evident.
27	After	Tires, Nuts, and Wheel Covers (Left Front Axles No. 1 & 2)	Check tires (2) for cuts, gouges cracks and foreign objects. Check for missing wheel cover mounting nuts (3), missing wheel covers (4) and missing valve stem caps (5).	Tires missing, deflated, or unserviceable. Two or more nuts are missing from the same wheel. One or more wheel covers are missing.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

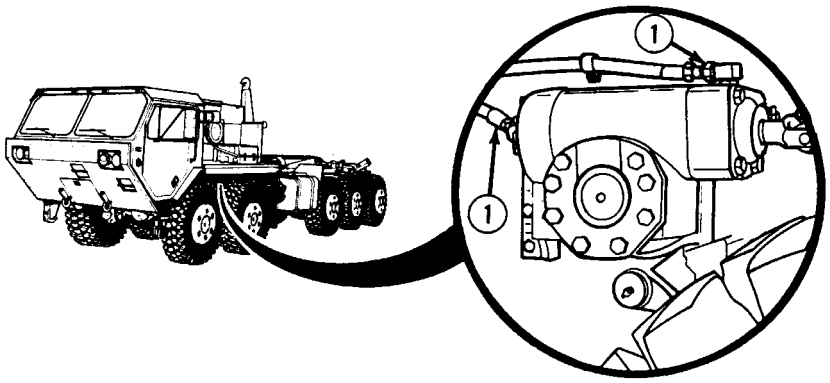
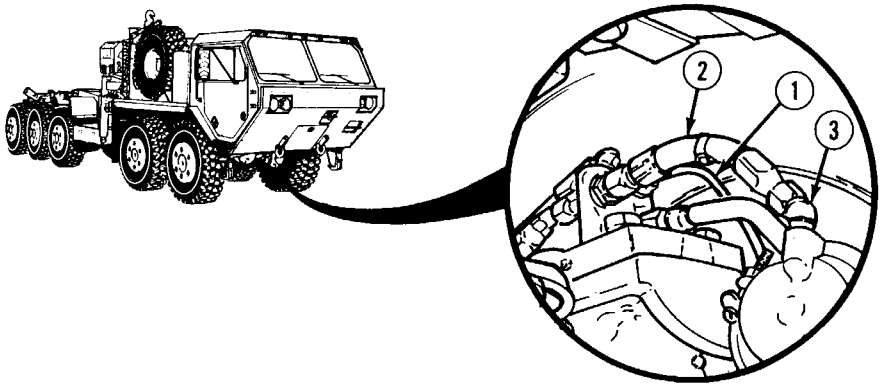
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
28	After	Power Steering Hoses and Fittings	Visually check condition of power steering hoses and fittings (1) for leaks and obvious damage.	Class III leak is evident. Obvious damage to hoses or fittings.
				
29	After	Air Lines Hoses, Fittings and Axle Vent Tubing (Left Side Axles No. 1 & 2)	Check axle vent tubing (1), for kinks and obvious damage. Check air lines, hoses (2), and fittings (3) for leaks, cracks and kinks.	Axle vent tubing is kinked damaged. Air lines or hoses have leaks, cracks or kinks.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

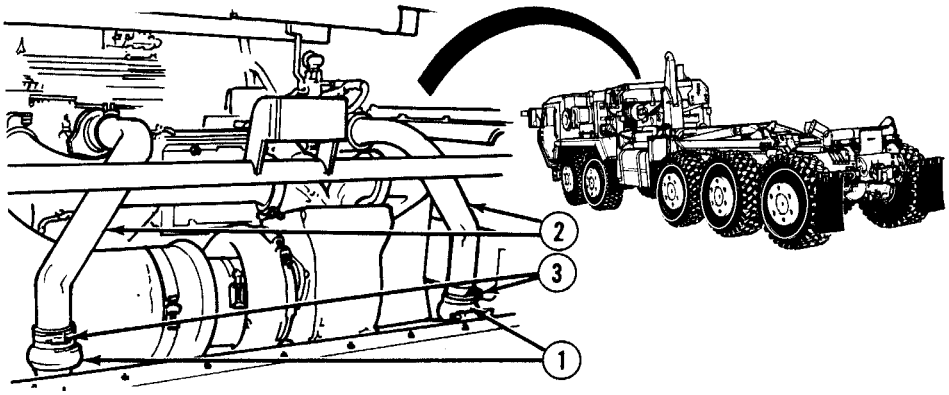
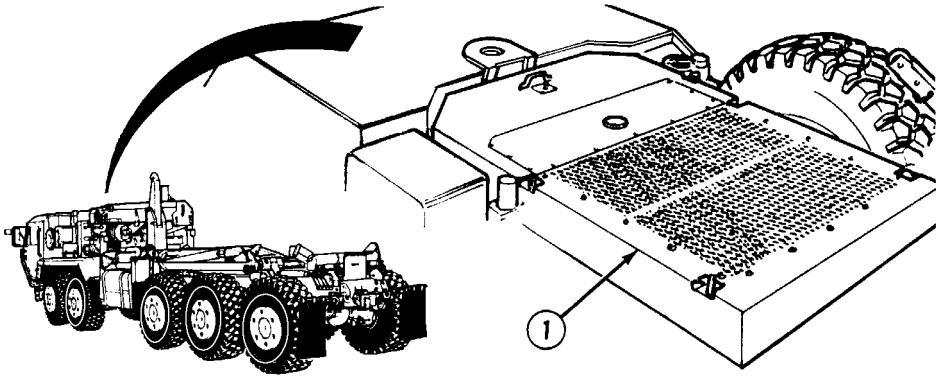
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING • Radiator coolant can be extremely hot and cause severe burns. • Use extreme caution when checking radiator hoses and clamps or injury to personnel may result.	
			NOTE Ladder is required for the following check.	
30	After	Radiator Hoses and Clamps	Check radiator hoses (1), piping (2) for leaks, and clamps (3) for looseness.	Class III leak is evident.
				
31	After	Radiator	Check radiator (1) for leaks.	Class III leak is evident.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

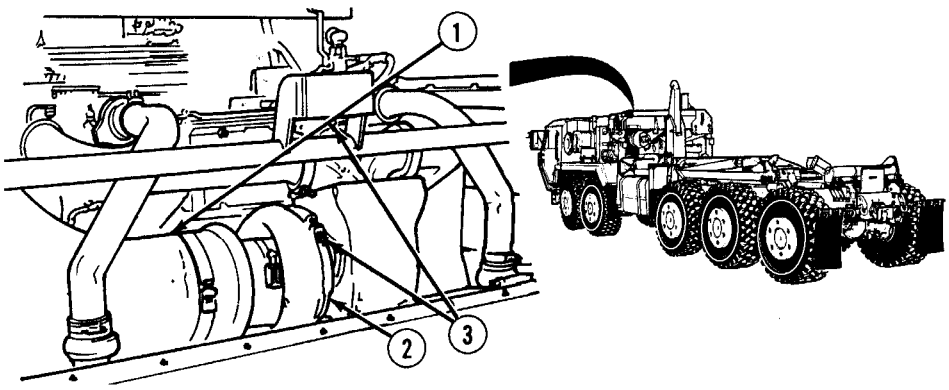
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
32	After	Air Intake Tubing	Check air intake tubing (1).	Tubing is bent or kinked.
			WARNING Components are extremely hot. Use caution when performing the following procedure to avoid injury.	
33	After	Turbo-charger	Visually check for leaks and/or damage to turbocharger (2) lines and fittings (3).	Class III leak is evident. Lines or fittings are damaged.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

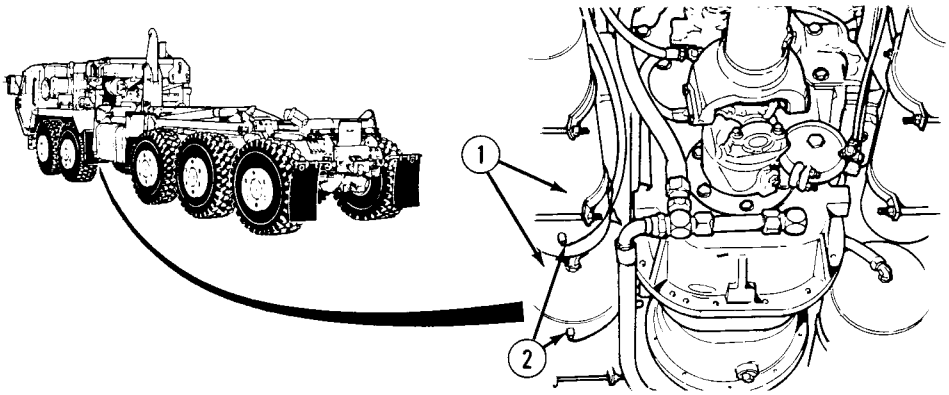
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
34	After	Left Side Air Reservoirs	Check air reservoirs (1) for leaks and damage. Pull cable (2) or open petcock and drain reservoirs until all water is drained.	Reservoirs leaking air.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

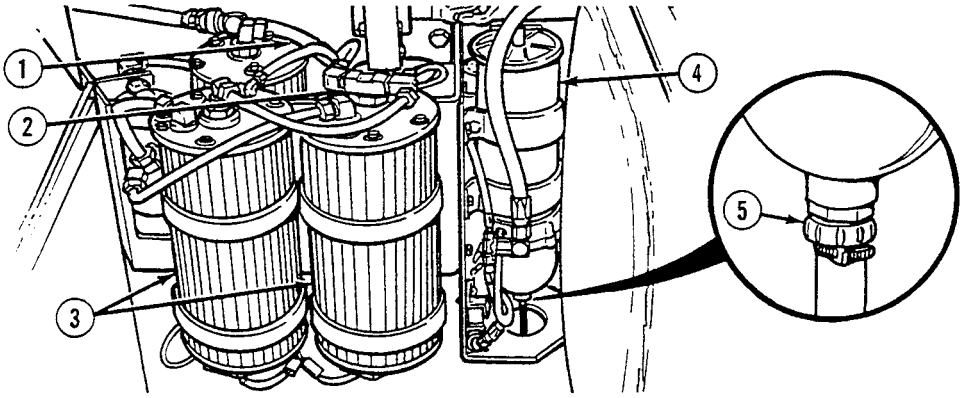
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
		AIR DRYER GUARD SHOWN REMOVED FOR CLARITY (IF EQUIPPED) 		
35	After	Air Lines Fittings	Check air line hoses (1) fittings (2) for leaks, damage, cracks and kinks.	Air lines or hoses have leaks, cracks or kinks.
36	After	Air Dryer	Check air dryers (3) for loose parts, air leaks and damage.	Air dryer is damaged, has loose parts or leaks.
			CAUTION Do not overtighten drain cock or damage to equipment will result.	
37	After	Fuel/Water Separator	Check fuel/water separator (4) for leaks and damage. Open drain cock (5) and drain water into suitable container (approximately one pt.).	Class III leak is evident.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

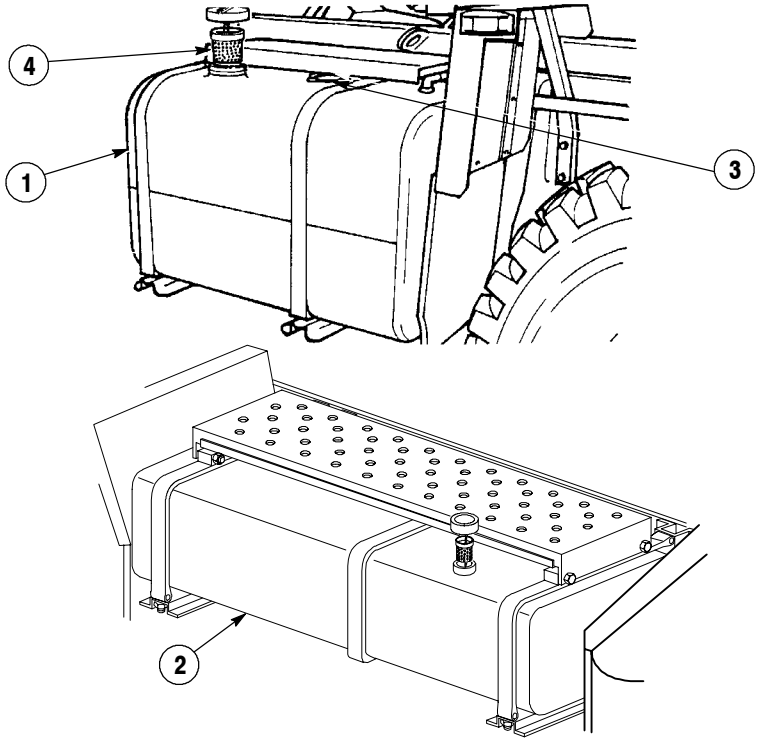
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep fire extinguisher within easy reach when working with fuel. Do not work on fuel system when engine is hot. Fuel can be ignited by hot engine.	
38	After	Fuel Tank(s), Hoses and Fittings	Check main fuel tank (1), auxiliary fuel tank (if equipped) (2), hoses (3) and fittings for leaks and cracks. Check fuel strainer (4) for debris and damage.	Class III leak is evident. Cracks that will impair operation are present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

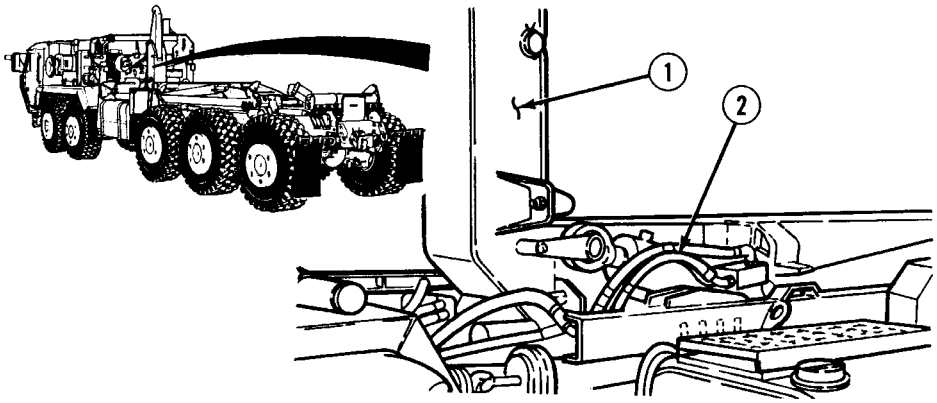
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
39	After	Load Handling System (LHS)	Check LHS (1) for loose, damaged and missing parts.	Parts are damaged or missing.
40	After	Load Handling System (LHS)	Visually check hydraulic lines and hoses (2), for leaks. Visually check for cracked and kinked lines.	Class III leak is evident. Cracks or kinks that will impair operation are present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

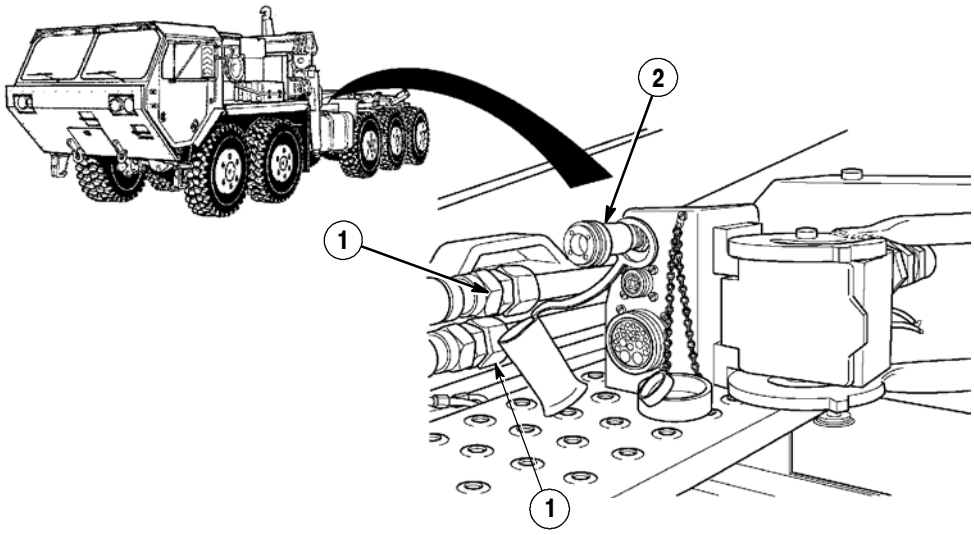
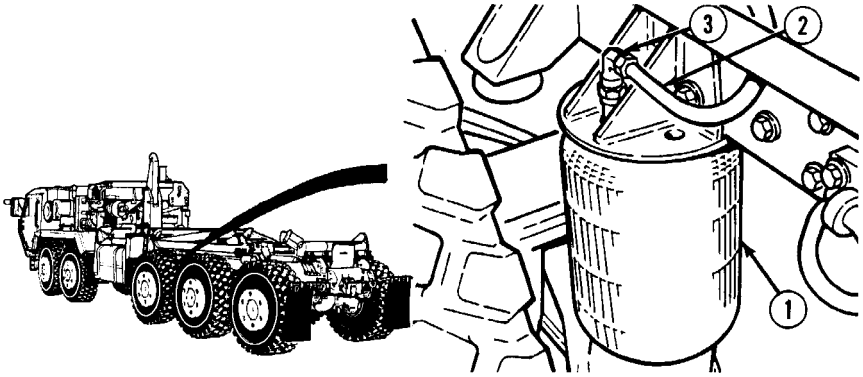
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
41	After	Interface Kit (If Equipped)	Visually check condition of hoses and fittings (1) for leaks and obvious damage. Visually check air lines and fittings (2) for leaks or damage.	Class III leak is evident. Cracks or kinks that will impair operation are present. Air lines leaking or damaged.
				
42	After	Air Bag Axle No. 3 (Left Side)	Check air bag (1), tubing (2), and fitting (3) for leaks and damage.	Air bag will not hold air.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

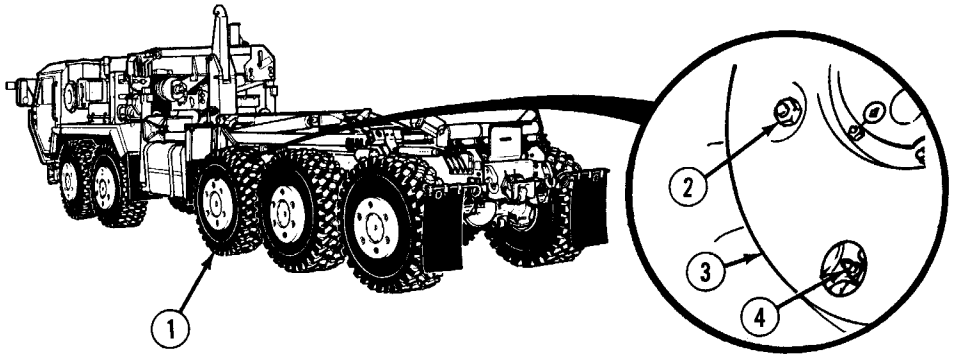
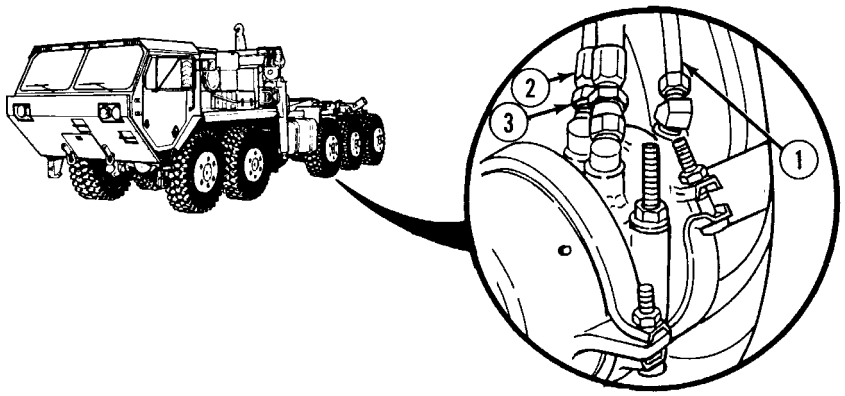
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
43	After	Tires, Nuts, and Wheel Covers (Left Side Axles No. 3, 4 & 5)	Check tires (1) for cuts, gouges, cracks and foreign objects. Check for missing wheel cover mounting nuts (2), missing wheel covers (3) and missing valve stem caps (4).	Tires missing, deflated, or unserviceable. Two or more nuts are missing from the same wheel. One or more wheel covers are missing.
				
44	After	Air Lines Hoses and Fittings (Left Side, Axles No. 3, 4 & 5) Axle Vent Tubing (Left Side Axle No. 5)	Check axle vent tubing (1), for kinks and obvious damage. Check air lines, hoses (2), and fittings (3) for leaks, cracks, and kinks.	Axle vent tubing is kinked or damaged. Air lines or hoses have leaks, cracks, or kinks.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

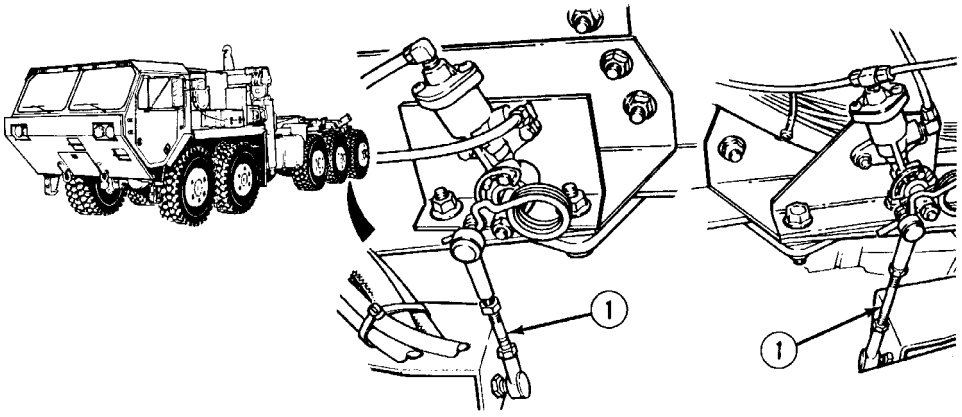
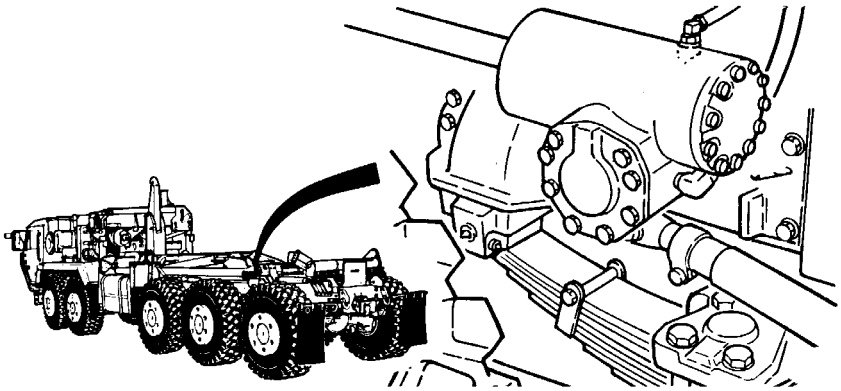
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
45	After	Ride Height Control Linkages (Axle No. 5)	Check for damage to linkages (1).	Linkages are bent or broken.
				
46	After	Steering Hydraulic Fittings and Hoses	Check for leaking hydraulic steering fittings and hoses. Check for dents, cracks, and kinks that would impair operation.	Class III leak is evident. Cracks, dents or kinks that will impair operation are present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

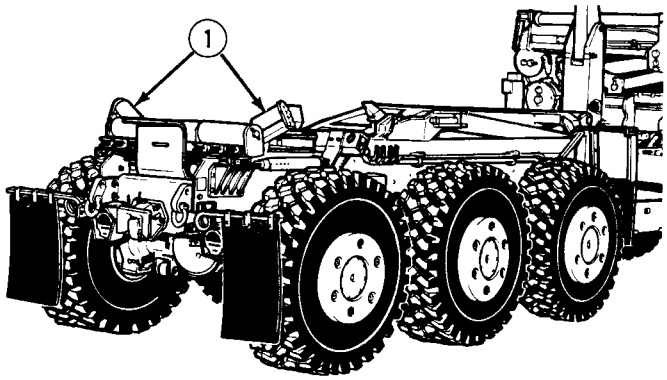
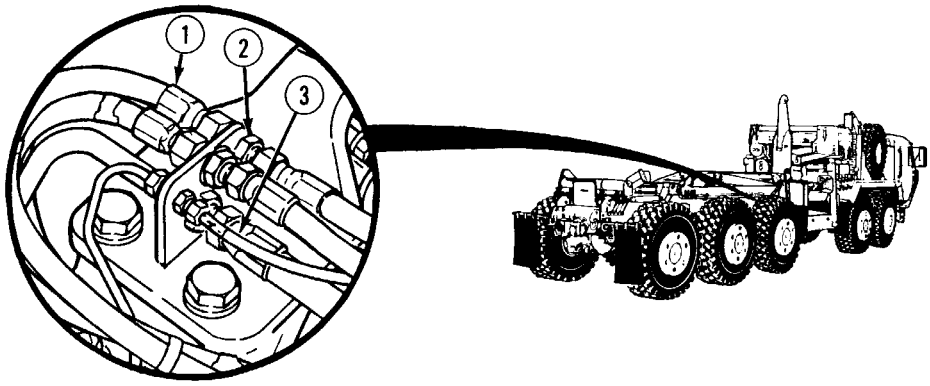
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
47	After	Load Handling System (LHS) Rollers	Check LHS rollers (1) for damage and binding.	Rollers broken, missing or inoperable.
				
48	After	Air Lines, Hoses, and Fittings (Right Side Axles No. 3, 4 & 5) Axle Vent Tubing Right Side (Axle No. 5)	Check air line hoses (1) and fittings (2) for leaks, dents, cracks, and kinks. Check axle vent tubing (3) for kinks and damage.	Air lines or hoses have leaks, cracks or kinks. Axle vent tubing kinked or cracked.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

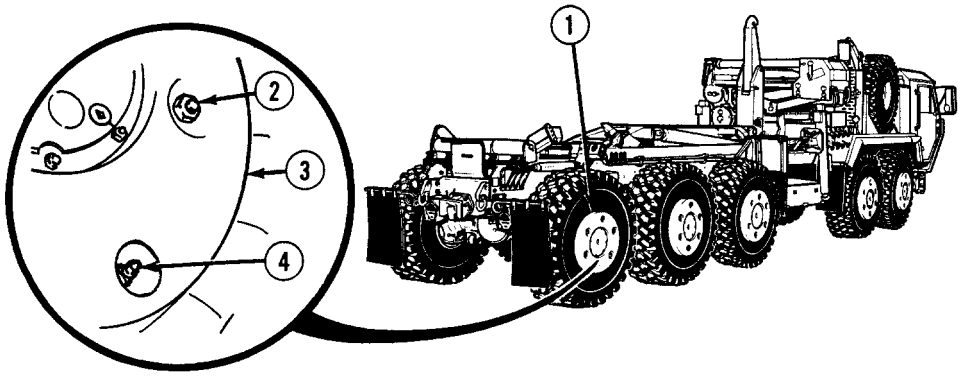
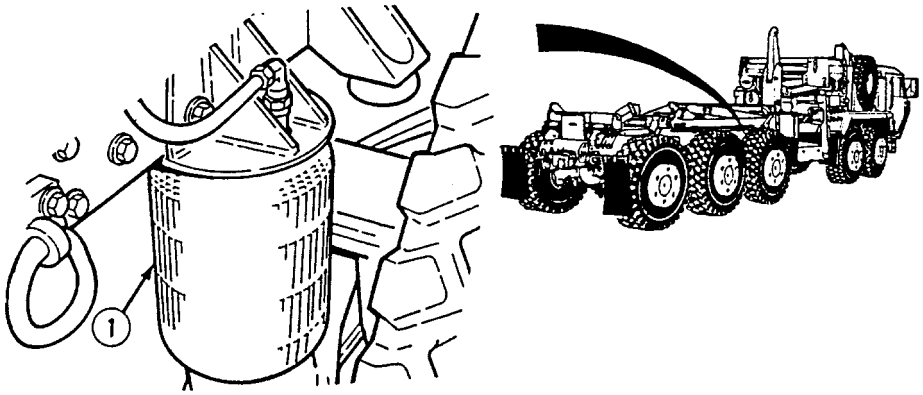
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
49	After	Tires, Nuts, and Wheel Covers (Right Rear Axles No. 3, 4 & 5)	Check tires (1) for cuts, gouges, cracks and foreign objects. Check for missing wheel cover mounting nuts (2) and missing wheel covers (3) and missing valve stem caps (4).	Tires missing, deflated, or unserviceable. Two or more nuts are missing from the same wheel, or wheel covers are missing.
				
50	After	Air Bag (Right Side Axle No. 3)	Check air bag (1) tube and fitting for leaks and damage.	Air bag will not hold air.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

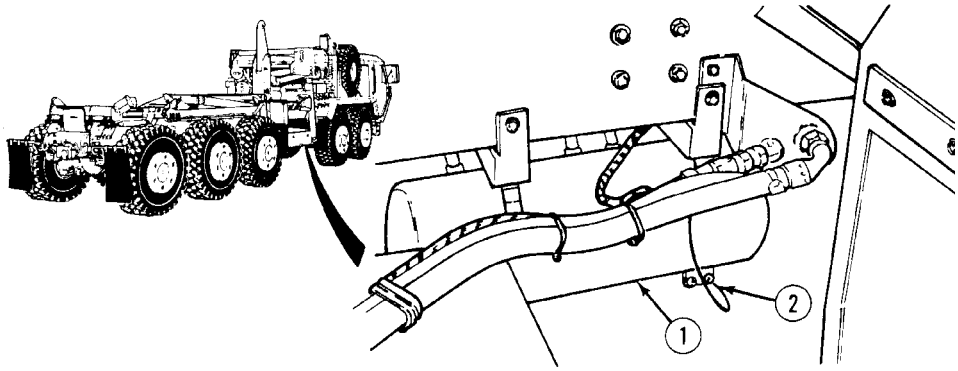
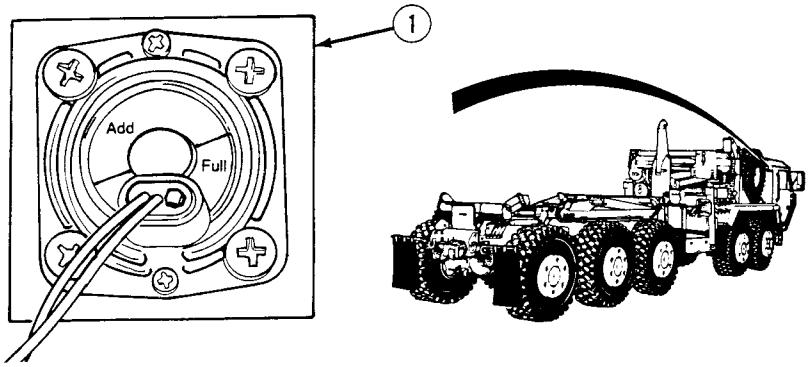
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
51	After	Right Side Air Reservoirs	Check that air reservoirs (1), are secure and there are no air leaks and damage. Pull cable (2) or open petcock and drain reservoir until all water is drained.	Air leaks are present.
				
			NOTE • Load Handling System and crane (if equipped) must be in stowed position when taking reservoir fluid level reading, or incorrect fluid level reading will be obtained. • The ladder is needed for the following procedures.	
52	After	Hydraulic Reservoir	Check hydraulic reservoir fluid level indicator (1). If oil level is within the FULL band, the quantity of hydraulic oil is safe for operation.	Class III leak is evident.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

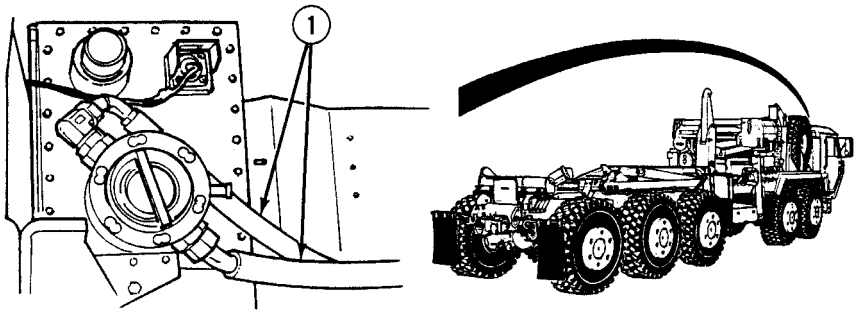
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
53	After	Hydraulic Lines and Hoses	Check for leaking and damaged hydraulic lines and hoses (1).	Class III leak is evident. Cracks, or kinks that will impair operation are present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

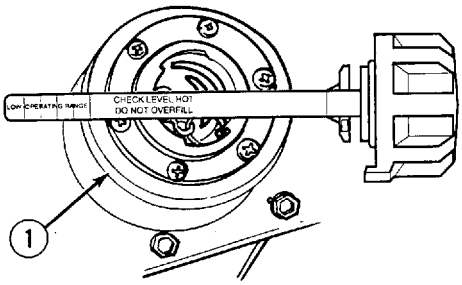
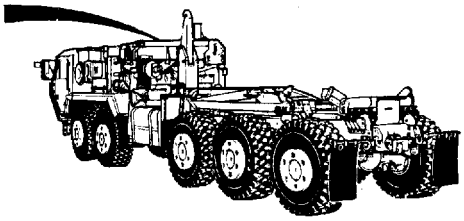
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
		 		
			WARNING Hydraulic oil may be hot and cause serious burns.	
			CAUTION When installing breather cap, ensure that tether chain lowers into reservoir hole, or damage to breather cap gasket will result.	
54	After	Power Steering Reservoir	While hydraulic fluid is still hot, check steering hydraulic fluid reservoir (1) for the proper fluid level. If level is below the 3/4 mark in the OPERATING RANGE, notify Unit Maintenance to determine where fluid is leaking. If no leaks are found, fill as required. Check for damage, cracks and leaking fluid.	Class III leak is evident. Cracked or broken reservoir is present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

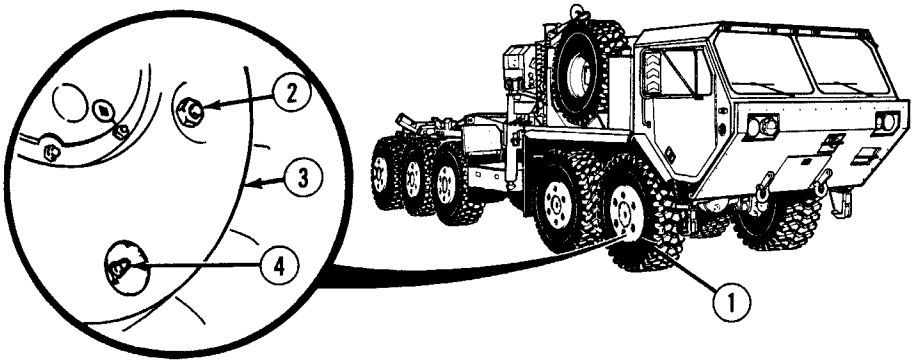
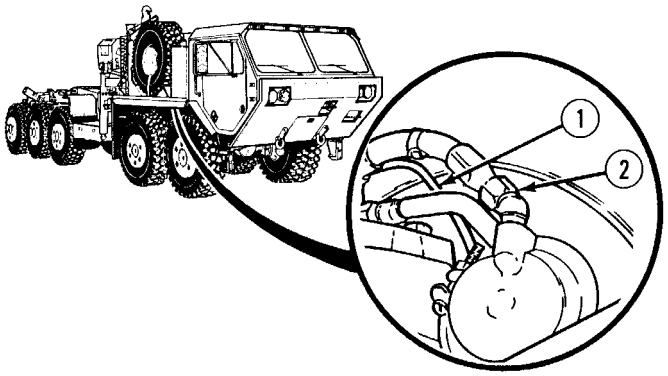
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
55	After	Tires, Nuts, and Wheel Covers (Right Front Axles No. 1 & 2)	Check tires (1) for cuts, gouges, cracks and foreign objects. Check for missing wheel cover mounting nuts (2), missing wheel covers (3) and missing valve stem caps (4).	Tires missing, deflated or unserviceable. Two or more nuts are missing from the same wheel. One or more wheel covers are missing.
				
56	After	Air Lines and Vent Tubing (Right Front Axles No. 1 & 2)	Check axle vent tubing (1) for obvious damage, and air line hoses and fittings (2) for leaks, cracks, and kinks.	Axle vent tubing has cracks or kinks that would impair operation. Air lines or hoses have leaks, cracks, or kinks that would impair operation.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

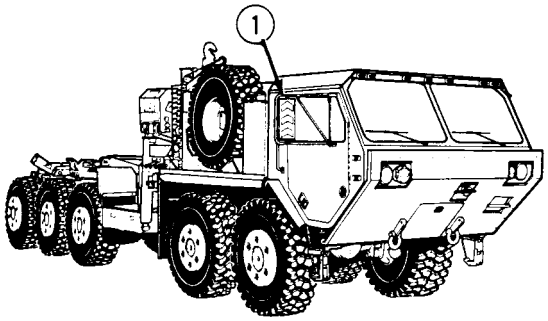
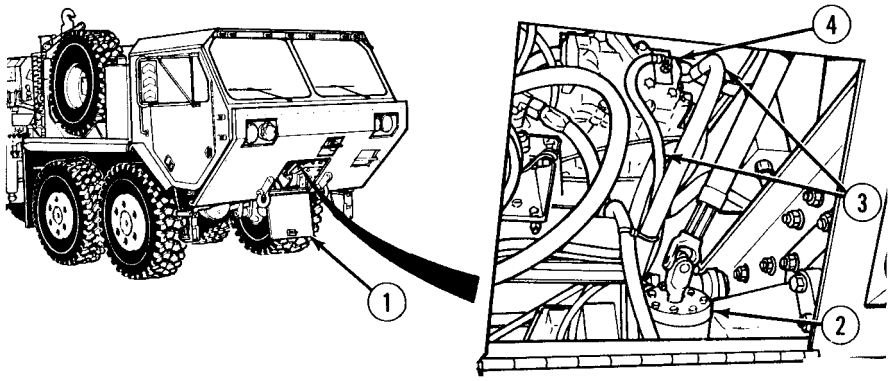
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
57	After	Mirror (Right)	Check mirrors (1) for cracks and missing mirrors.	
				
58	After	Steering Gear (Front)	Open front access cover (1) and check front steering gear assembly (2) for leaking fittings and hoses.	Class III leak is evident.
59	After	Air Lines and Fittings (Front)	Check air lines and fittings (3) for leaks and damage.	Air leaks or kinked air lines that impair operation are present.
60	After	Hydraulic Pump, Hoses and Fittings (Front)	Check hydraulic pump (4), fittings and hoses for cracks or leaks.	Class III leak is evident. Cracked or broken fittings or hoses are present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

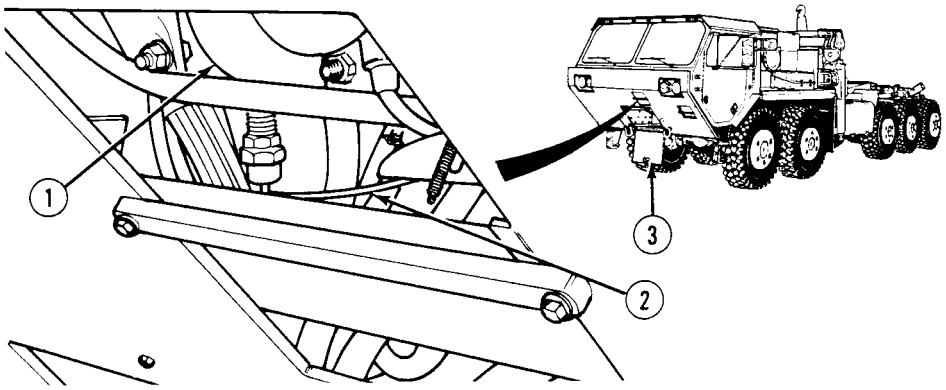
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
61	After	Air Reservoir (Front)	Check air reservoir (1) for leaks and damage. Pull cable (2) and drain any water that may be present. Close front access cover (3).	Air reservoir leaking.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

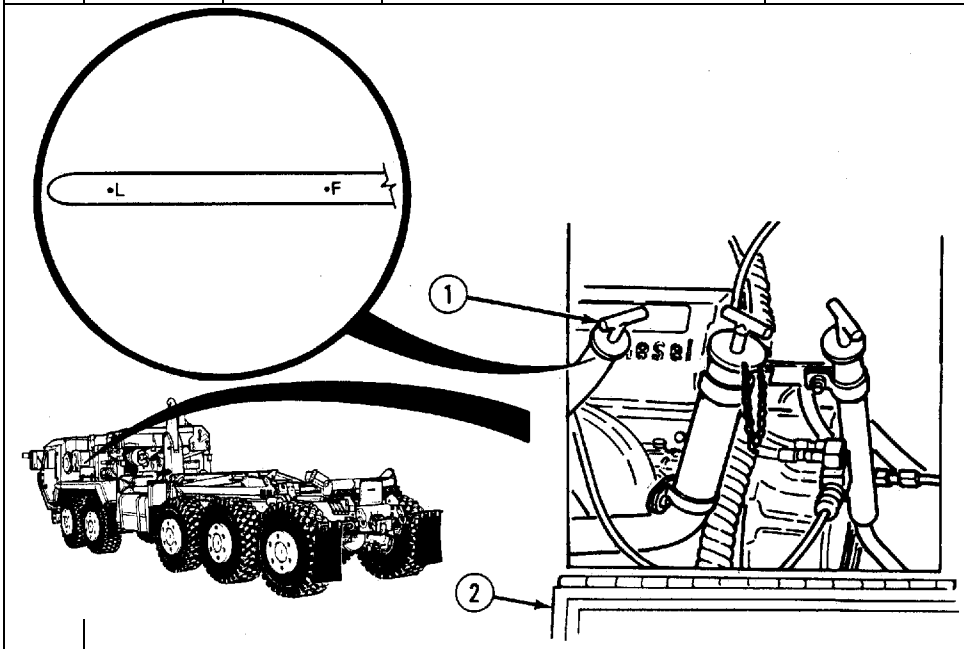
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			CAUTION • Never allow engine oil level to drop below the LOW mark. Damage to engine may result. • High engine oil level could indicate fuel or water leakage into crankcase and could cause serious damage to equipment. Notify Unit Maintenance if high oil level is detected.	
			NOTE • Ensure vehicle is positioned on level ground. • The ladder is needed for the following procedure. • Dipstick must be inserted all the way into tube. • Allow at 20 minues to elapse after shutdown before checking oil to allow engine oil to drain to crank case.	
62	After	Engine Oil Level	Check that engine oil level is between Low (L) and Full (F) on the dipstick (1). If below Low (L) fill as required. Close access panel (2).	Oil level is not between Low (L) and Full (F) on dipstick or Class III leak is evident.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

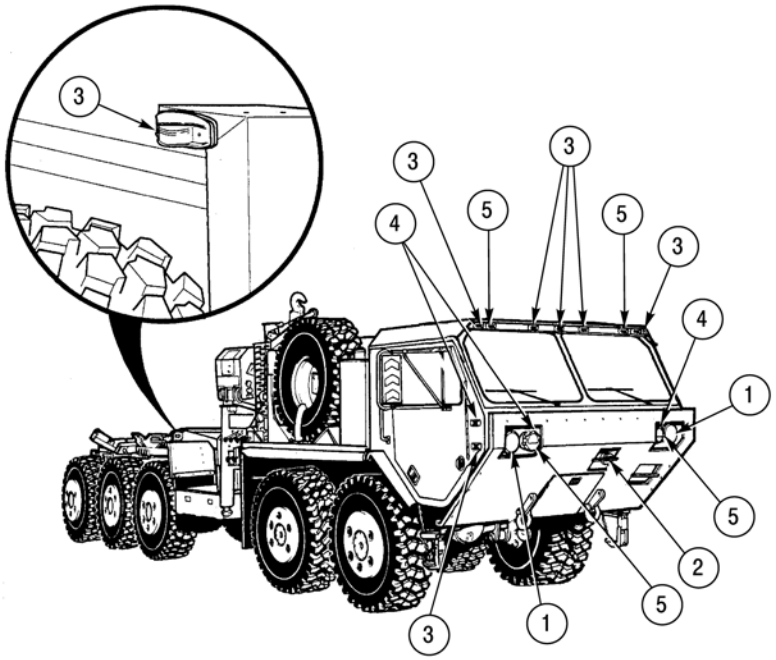
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE • Operation of truck with inoperative headlights and or clearance lamps may violate AR 385-55. • An assistant may be used to check lights outside of cab. • Truck may or may not be equipped with upper blackout marker lights.	
63	After	Front Lights	Operate switches in cab as required and check operation of headlights (1), blackout drive (2), clearance lights (3), turn signal/ emergency flasher (4) and blackout marker lights (5) for broken and burnt out lamps and broken lenses.	

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

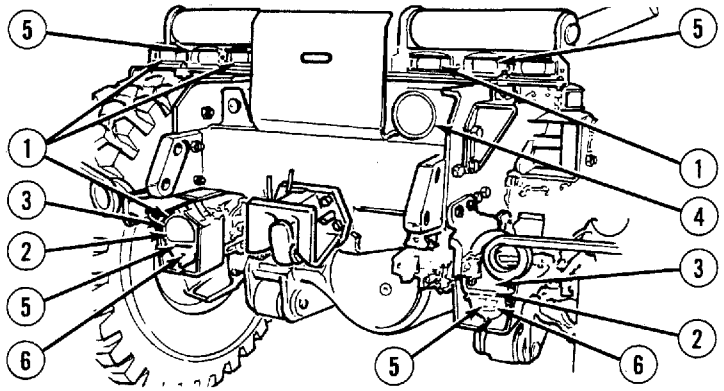
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
		NOTE • Operation of truck with inoperative headlights and or clearance lamps may violate AR 385-55. • An assistant may be used to check lights outside of cab. • Truck may or may not be equipped with upper blackout marker lights.		
64	After	Rear Lights	Operate switches in cab and check operation of clearance lights (1), turn signals/emergency flashers (2), stop lights (3), backup light (4), blackout marker (5) and blackout brake (6) lights for burnt, missing lamps and broken lenses.	
65	After	Leaks	Check underneath truck for fluid leaks (fuel, oil or coolant).	Class III leak is evident.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

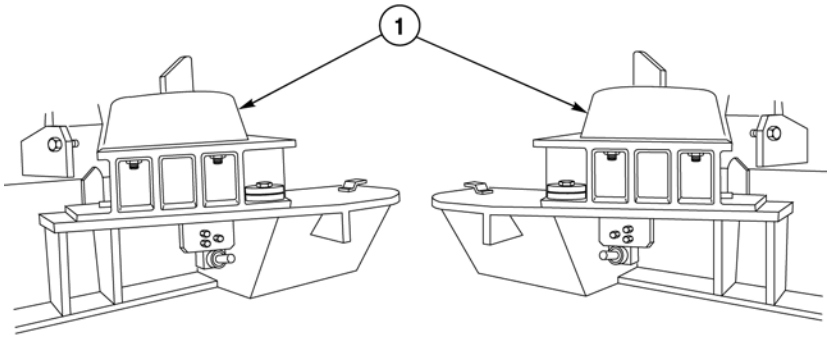
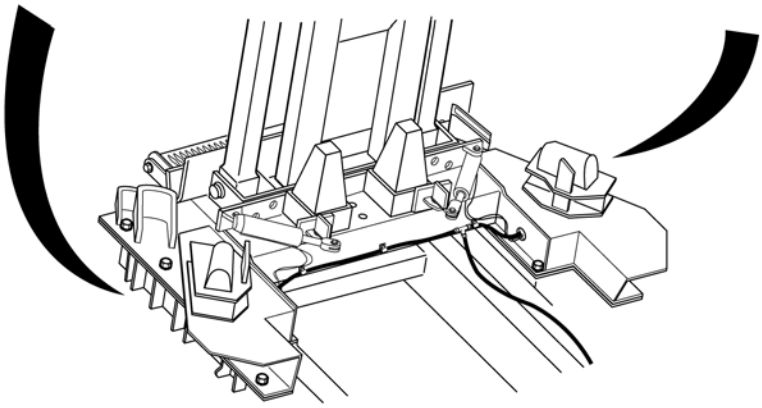
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
 				
65.1	After	Rubber Bumpers	If truck is equipped with Container Handling Unit (CHU), check rubber bumpers (1) for cracking, peeling, or a permanent set, as indicated by a height of 2.75 in. (6.9 cm), or less, when unloaded.	Parts are damaged or missing.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

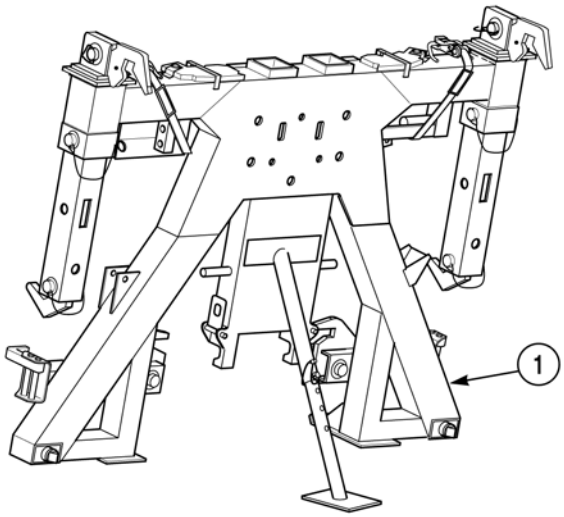
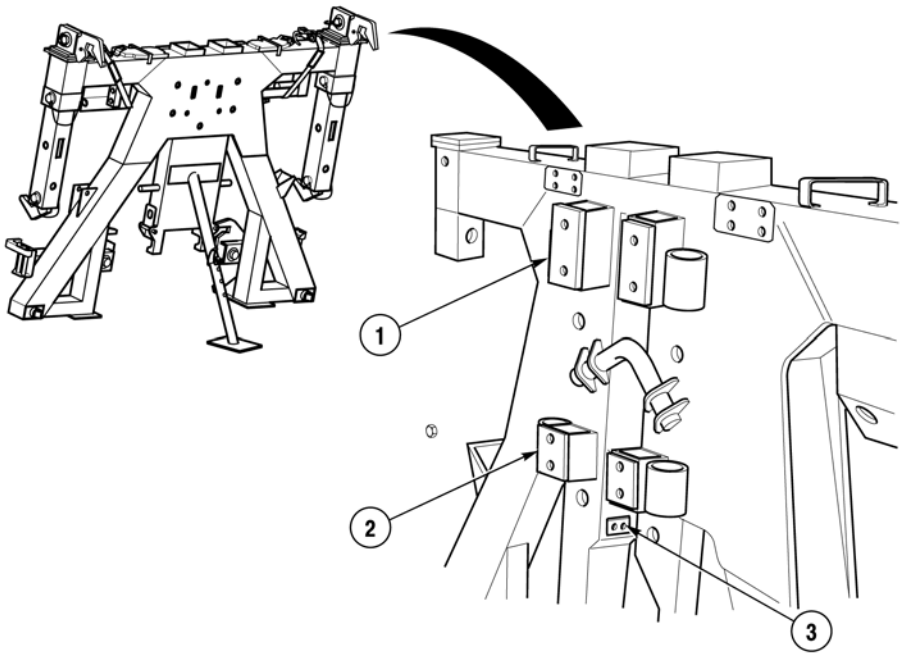
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
65.2	After	Lifting Frame (LF)	Check lifting frame (1) weldments for cracks or other damage. Report damage to supervisor.	Cracked or broken welds detected.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
65.3	After	Wear Pads	If truck is equipped with Container Handling Unit (CHU), check long wear pads (1) and short wear pads (2) and (3) for cuts, gouges, and/or wear. Wear pads (1) and (2) shall be a minimum of 13/16 in. (20.64 mm) thick. Lower wear pads (3) shall be a minimum of 7/16 in. (11.11 mm) thick. No pad shall have a cut or gouge that exposes the mounting screw.	Cracked or broken welds detected.
66 thru 74	Deleted			

All data on pages 2-107 through 2-114 has been deleted.

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly)

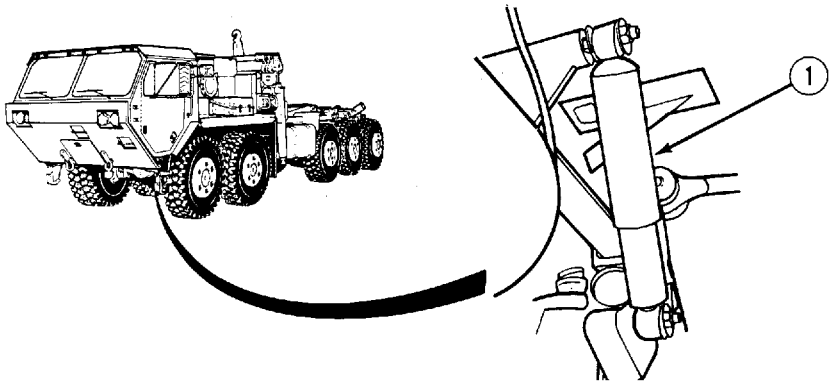
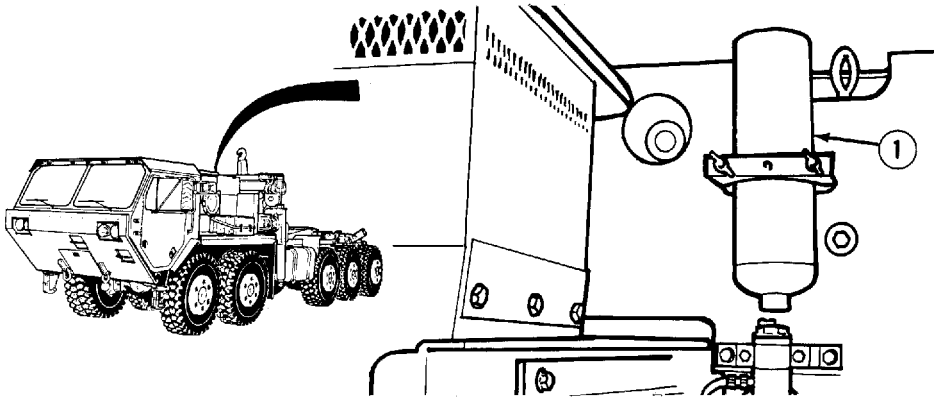
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
76	Weekly	Shock Absorbers (Left Side Axles No. 1 & 2)	Check shock absorbers (1) for leaks and damage.	Damage to shocks that impairs truck operation.
				
		NOTE • Perform the following check only as required during cold weather operation. • The ladder is needed for the following checks.		
77	Weekly	Ether Starting Aid	Check hardware, mounts and canister of ether starting aid (1).	

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

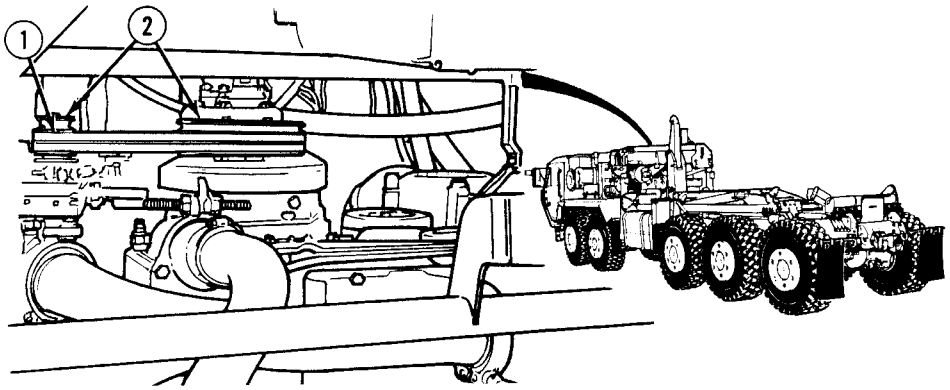
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE Engine panel must be open for item 78.	
78	Weekly	Alternator Belts	(a) Check alternator belts (1) for cracking, fraying, and breaks. Check for tightness. Play should be about 1/2 in. (13 mm). (b) Check pulleys (2) for cracks and damage. Close access panel.	Any belt is broken or cracked to the belt fiber, has more than one crack (1/8 in. [3.2 mm] in depth or 50 percent of belt thickness) or has frays more than two in. (51 mm) long. Any pulleys cracked or damaged.

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

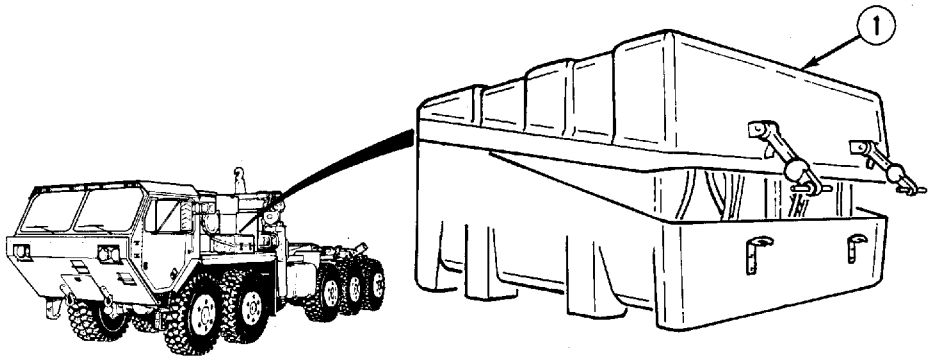
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
		WARNING • Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry or tools contact positive electrical circuits a direct short may result. Damage to equipment, injury or death to personnel may occur. • Lead-acid battery gases can explode. Do not smoke, have open flames, or make sparks around a battery, especially if caps are off. If a battery is gassing, it can explode and cause injury to personnel.		
79	Weekly	Battery Box	Remove battery box cover (1) and check for cracks and damage.	Battery box has damage that could allow battery box to separate from fender.
		NOTE Perform Item 80(a) only if truck has not been run for the last five days or longer.		
80	Weekly	Batteries	(a) Perform before interval check, Item 11(a) through 11(n) and idle truck for 15 minutes on high idle.	Batteries will not accept a charge.

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

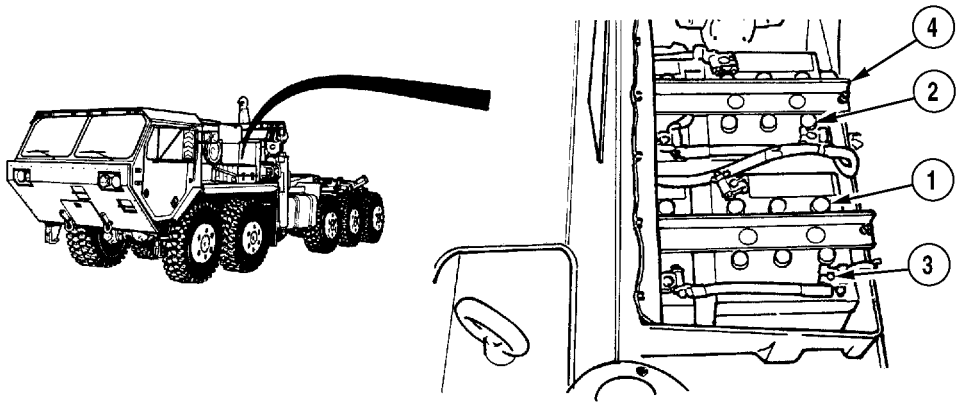
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING • Lead-acid battery gases can explode. Do not smoke, have open flames, or make sparks around a battery, especially if caps are off. If a battery is gassing, it can explode and cause injury to personnel • Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry or tools contact positive electrical circuits a direct short may result. Damage to equipment, injury or death to personnel may occur.	
80	Weekly	Batteries - (Cont).	(b) Visually check for missing battery caps (1). Check electrolyte level. Electrolyte should be filled to approximately 1/8 in. (3.2 mm) below level/split ring in the battery filler opening (vent). Visually inspect batteries for cracked and leaking casing (2), broken, loose, burned, and corroded terminal posts (3), loose, or missing hold downs (4). Install battery box cover.	Battery is unserviceable, missing, leaking, terminals or cables are loose, corroded, burnt, or hold downs are not secure.

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

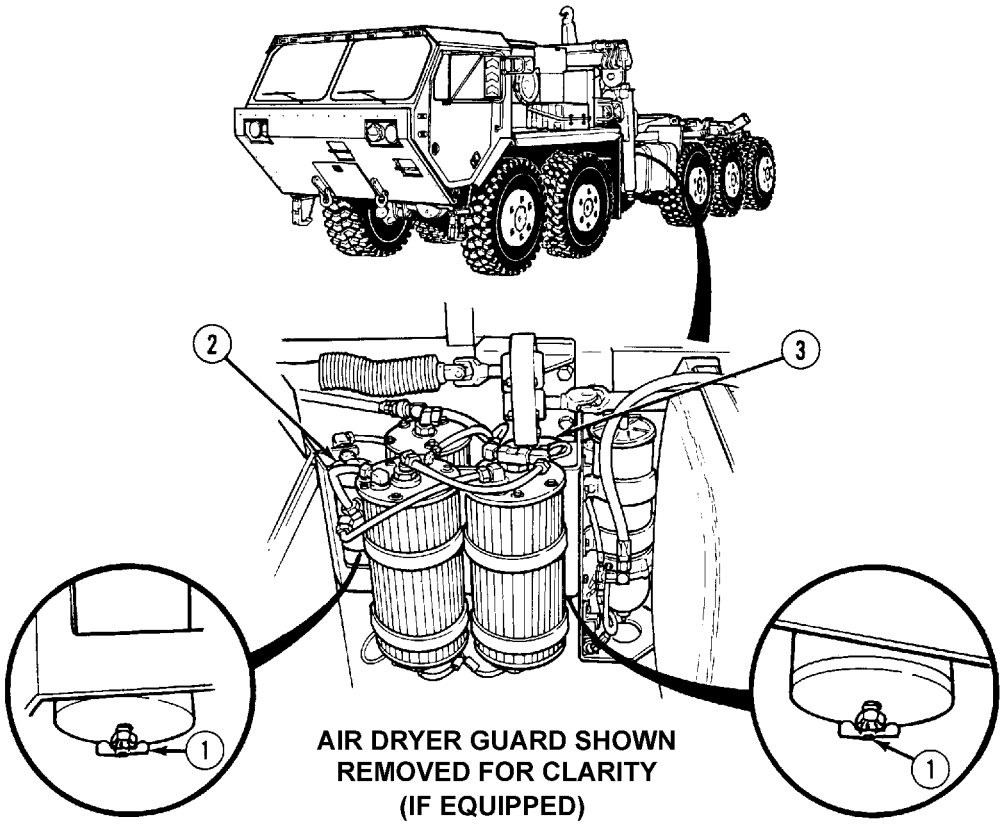
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 AIR DRYER GUARD SHOWN REMOVED FOR CLARITY (IF EQUIPPED)	
			NOTE • A small amount of oil out of drain is normal. If a steady stream of oil out of drain is detected or if in doubt, notify supervisor or Unit Maintenance. • If either coalescing filter or purge tank can not be drained, drain all other reservoirs. Complete the mission and at the first opportunity, notify Unit Maintenance to repair the problem.	
81	Weekly	Coalescing Filter and Purge Tank	Open drains (1) and drain coalescing filter (2) and the purge tank (3). Close drains.	

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

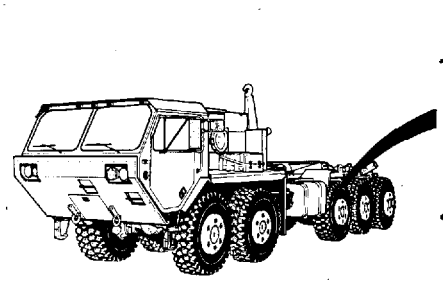
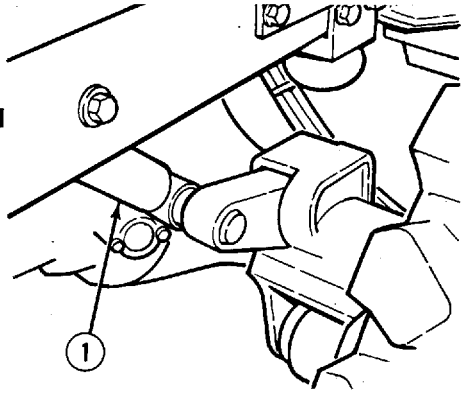
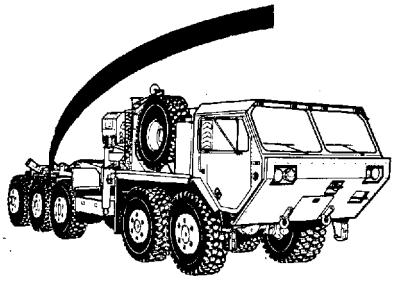
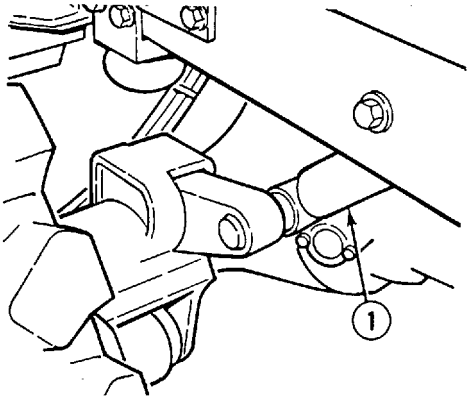
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
 				
82	Weekly	Shock Absorbers (Left Side Axles No. 3 & 4)	Check shock absorbers (1) for leaks and damage.	Damage to shocks that impairs truck operation.
 				
83	Weekly	Shock Absorbers (Right Side Axles No. 3 & 4)	Check shock absorbers (1) for leaks and damage.	Damage to shocks that impairs truck operation.

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

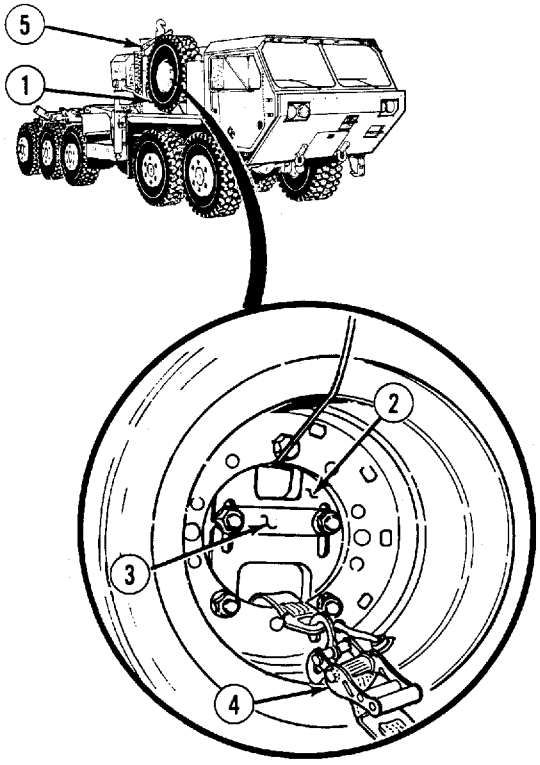
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING Spare tire air pressure must be checked properly or serious injury or death may result.	
			NOTE The ladder is needed for the following procedure.	
84	Weekly	Tire Davit, Spare Tire Mounting Bracket and Ratchet Strap	Check that spare tire (1) pressure is 75 psi (517 kPa). Adjust pressure if required (Para 2-57j). Check spare tire for cuts, gouges, cracks, and foreign objects. Check spare tire mounting bracket (2), plate (3), ratchet strap (4) and davit (5) for missing parts, looseness and obvious damage.	Spare tire missing, deflated, or unserviceable. Mounting bracket or plate missing, one or more nuts or ratchet strap missing, loose or unserviceable.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly)

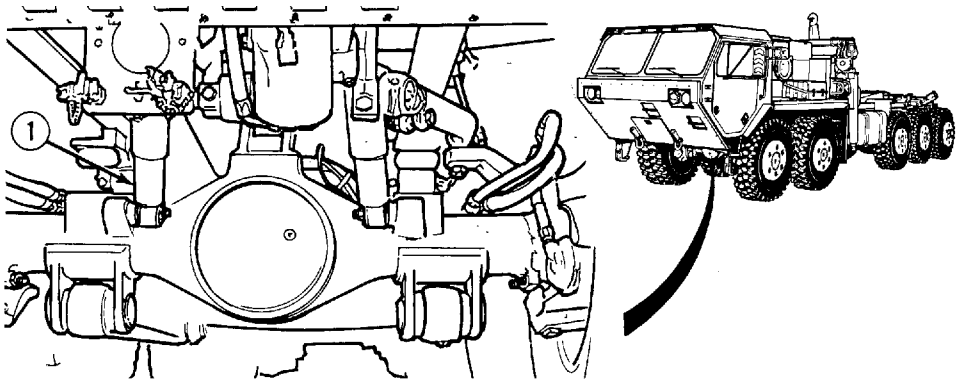
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
85	Weekly	Shock Absorbers (Right-Side Axles No. 1 & 2)	Check shock absorbers (1) for leaks and damage.	Damage to shocks that impairs truck operation.

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

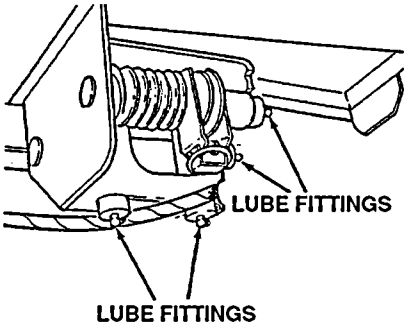
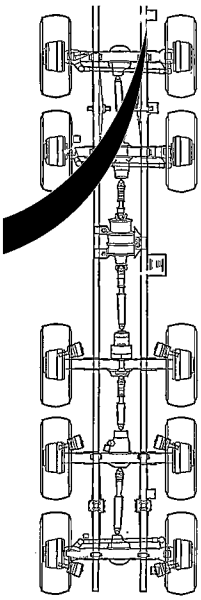
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 SELF-RECOVERY WINCH FRONT GUIDE 	
			NOTE • When using a grease gun, apply lubricant to the fitting until clean lubricant squeezes out of the part being lubricated. • If the part being lubricated does not purge clean lubricant, notify Unit Maintenance. • Lubricate Self-Recovery Winch (SRW) front guide horizontal shaft and sheave by turning and sliding sheave along length of shaft while applying grease with gun.	
85.1	Weekly	Self-Recovery Winch System (SRW)	(a) Lubricate SRW front guide (4 fittings) with GAA.	

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			(b) Lubricate SRW front tension guide (3 fittings) with GAA. (c) Lubricate oil can points with OE/DHO.	

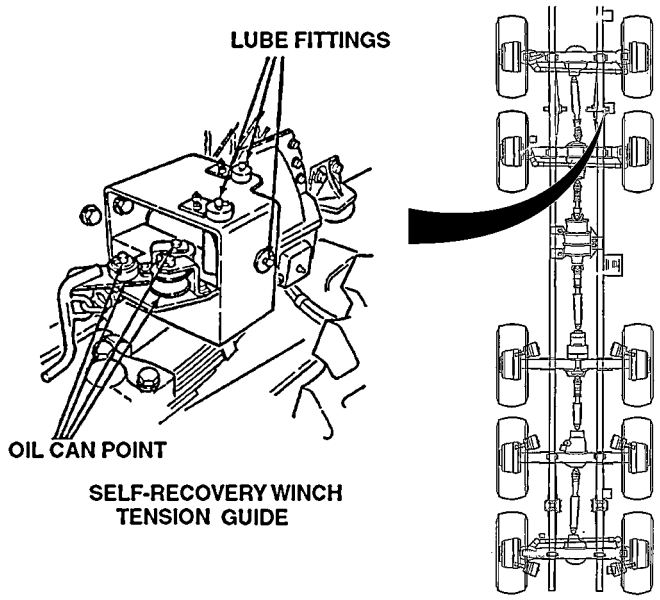


Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

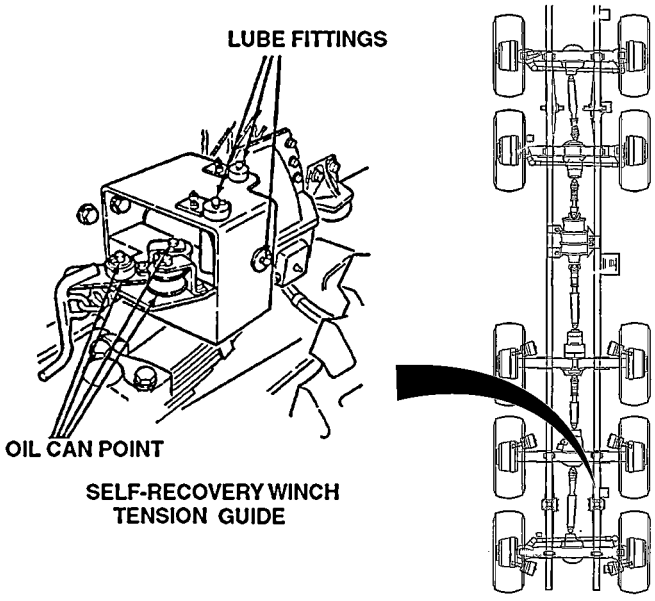
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			(d) Lubricate SRW rear tension guide (3 fittings) with GAA.	

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

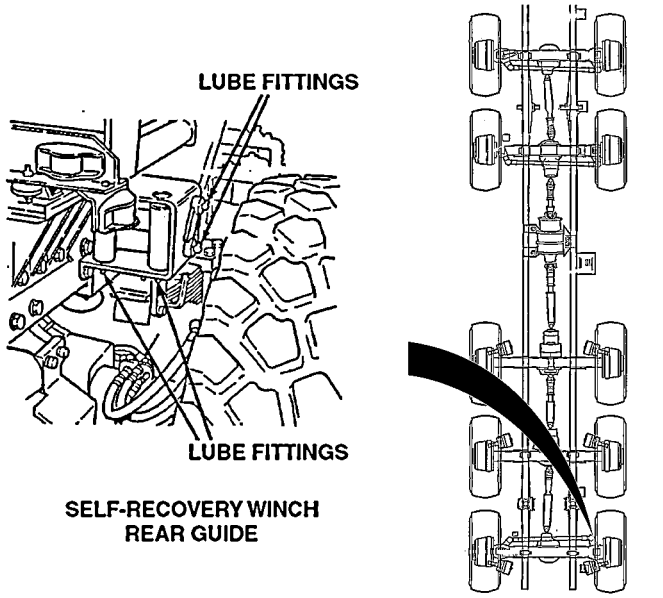
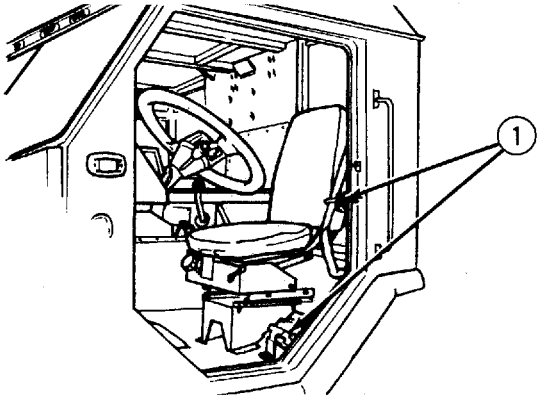
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 (e) Lubricate SRW rear guide (4 fittings) with GAA.	
				
86	Monthly	Rifle Mounts	Check rifle mounts (1) for damage and security.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

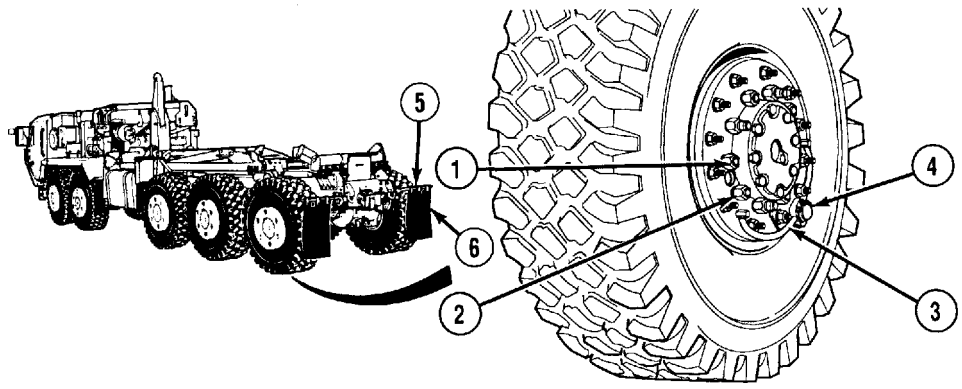
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE Take truck to Unit Maintenance to have wheel cover nuts properly tightened.	
87	Monthly	Studs and Wheel Nuts, (Left Side Axles)	Remove wheel covers. Check for missing, cracked and broken studs (1) and wheel nuts (2). Check for damage to CTIS hoses (3) and valves (4). Install wheel covers.	Two or more studs, or nuts, are missing from the same wheel.
88	Monthly	Mudflaps	Check mudflaps (5) for missing parts, torn rubber and bent mountings (6).	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

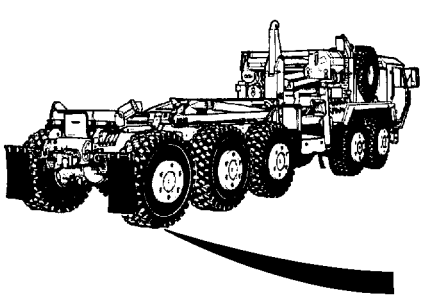
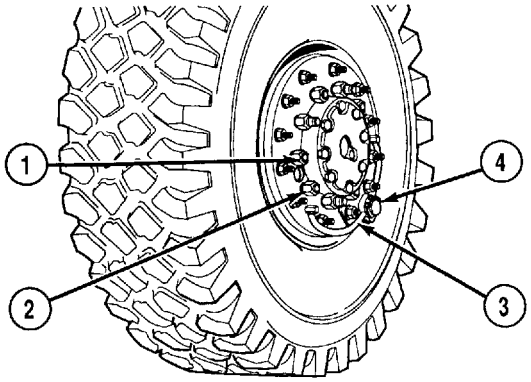
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 	
	NOTE Take truck to Unit Maintenance to have wheel cover nuts properly tightened.			
89	Monthly	Studs, and Wheel Nuts, (Right Side Axles)	Remove wheel covers. Check for missing, cracked and broken studs (1) and wheel nuts (2). Check for damage to CTIS hoses (3) and valve (4). Install wheel covers.	Two or more studs, or nuts, are missing from the same wheel.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

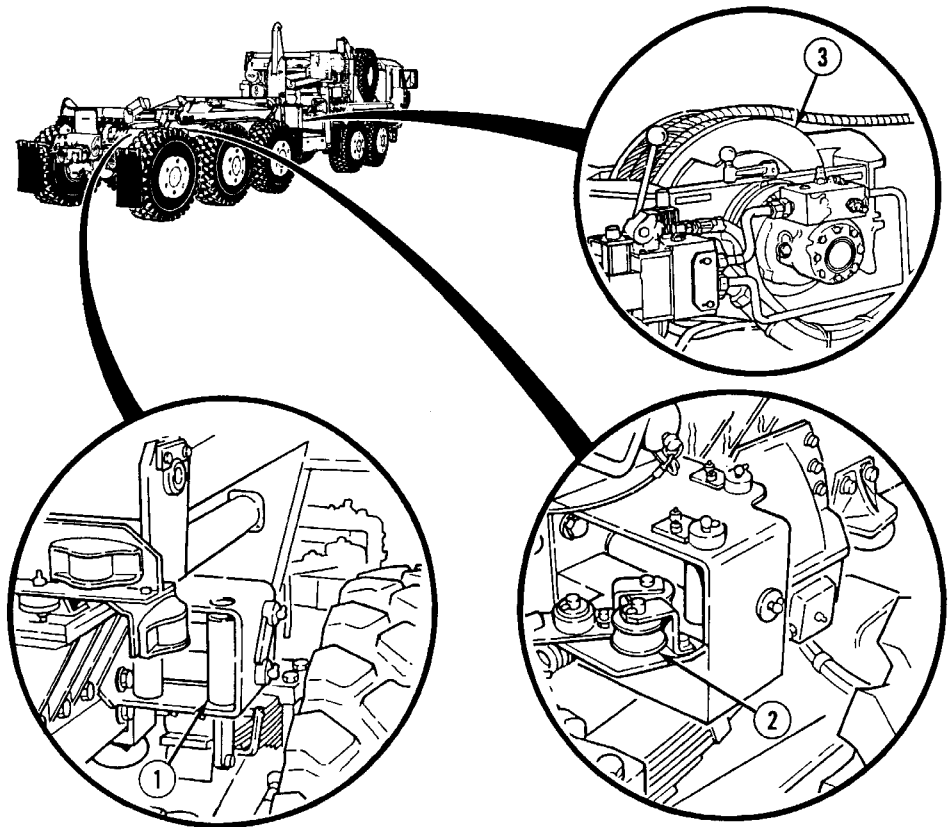
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
90	Monthly	Self-Recovery Winch (SRW) and Rear Cable Guides	If installed, check for damage to SRW cable guides (1), tensioners (2). Check for obvious damage to SRW (3).	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

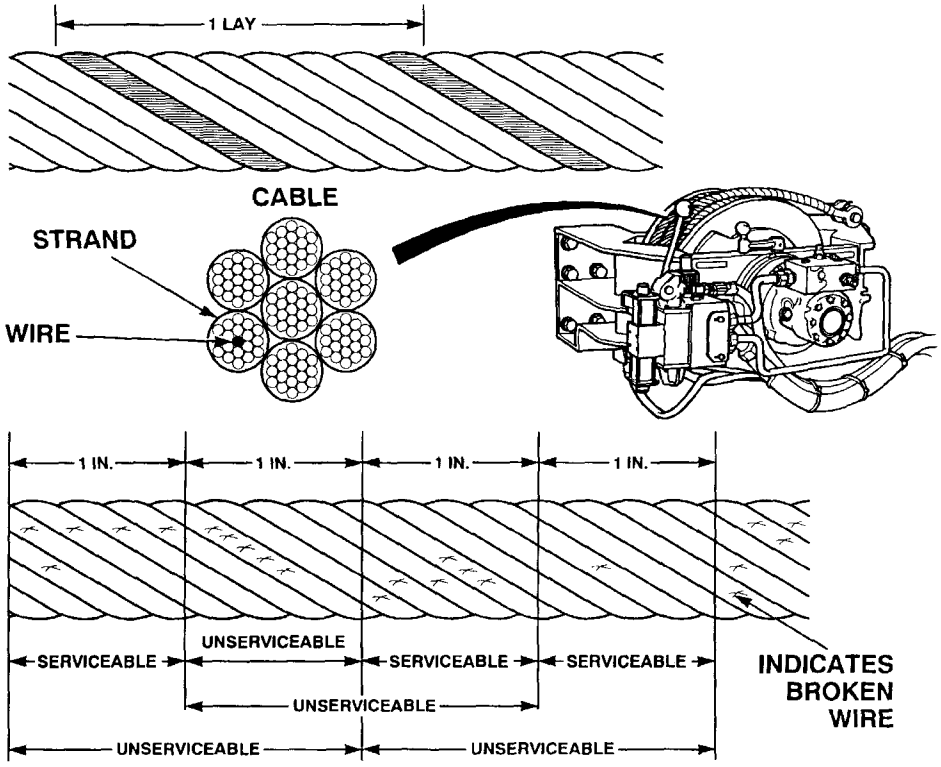
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE • Weak points in the cable and points where the greatest stress occur must be inspected carefully. • Worn spots will show up as shiny flattened spots on the strands.	
91	Monthly	SRW Cable	(a) Inspect winch cable.	Cable is frayed, kinked, worn or corroded.
			(b) Inspect for worn spots.	Outer wires are reduced in diameter by one-fourth.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
91	Monthly	SRW Cable - (Cont).	(c) Inspect broken wires to determine if it is a single broken wire or several broken wires.	Individual wires are broken next to one another; six randomly distributed broken wires in one lay (the distance in which the strands make one complete turn around the cable); or three broken wires in one lay.

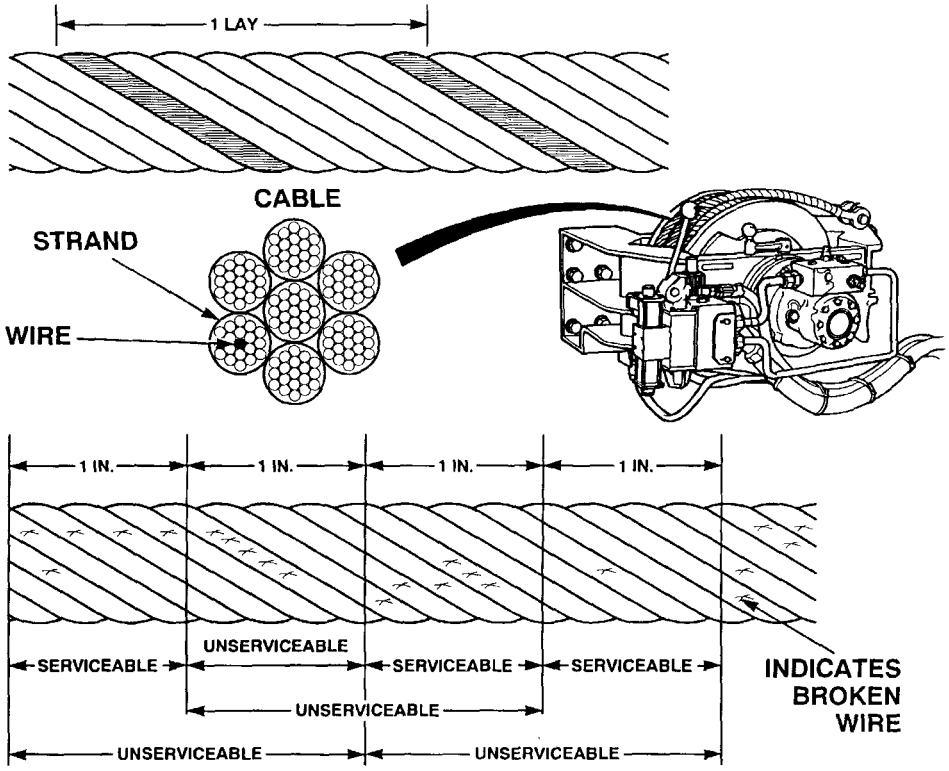


Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

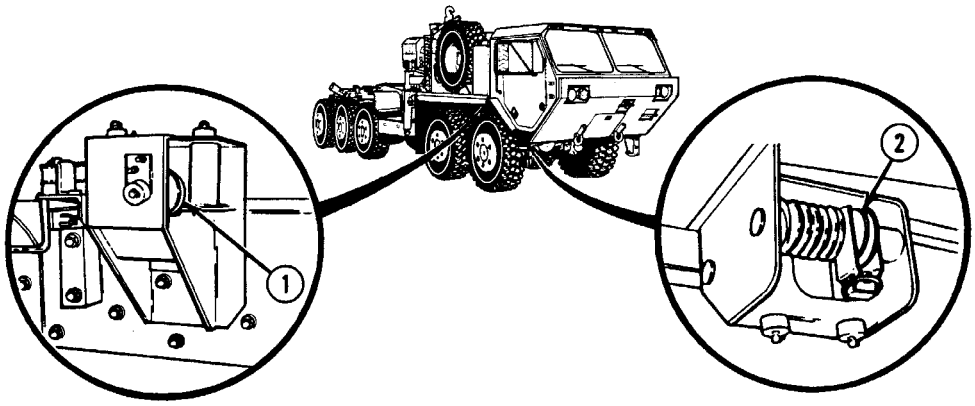
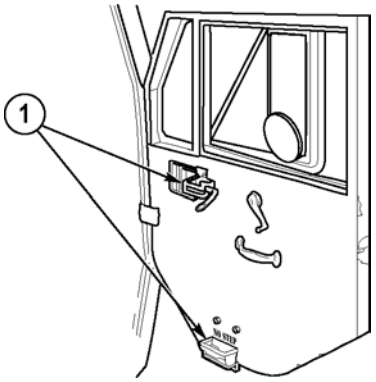
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
92	Monthly	SRW Front Cable Guides	If installed, check for damage to front cable guides (1) and tensioners (2).	
				
93	Monthly	Rifle Mounts	Check rifle mounts (1) for damage and security.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

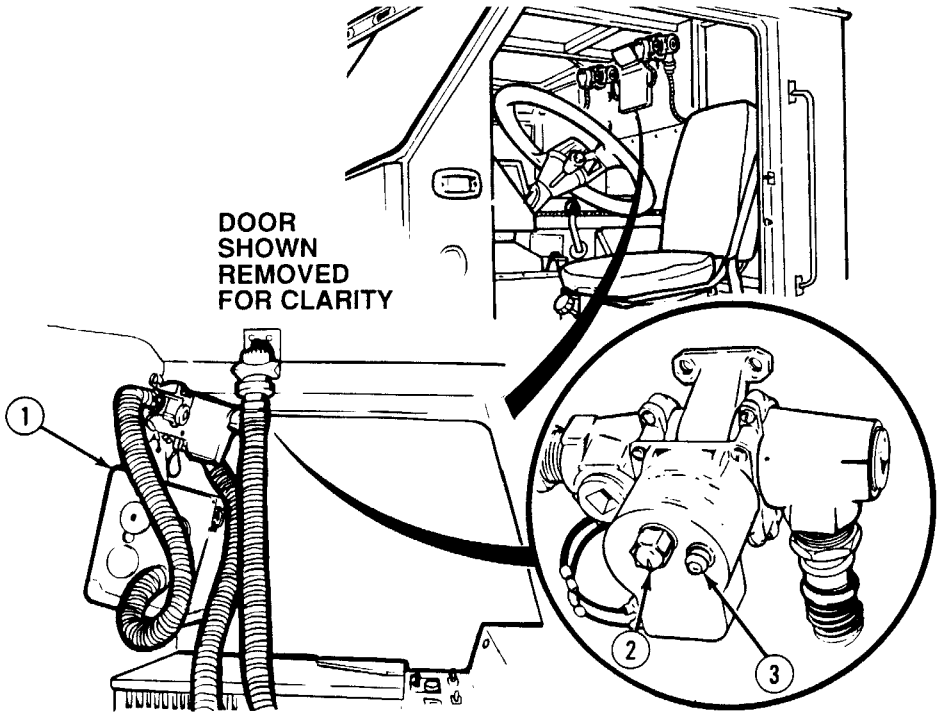
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
94	Monthly	Gas Particulate Filter Unit (GPFU)	Check Gas Particulate Filter Unit (GPFU) (1) (if equipped), and particulate filter hoses for cuts, tears, cracks and other damage.	
			NOTE Gas Particulate Filter Unit must be in operation to perform the following check.	
95	Monthly	GPFU Heater	Check GPFU heater control knob (2) by turning clockwise to make sure indicator lights (3) come on. Warm air flow should be present. Shut off GPFU heater.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

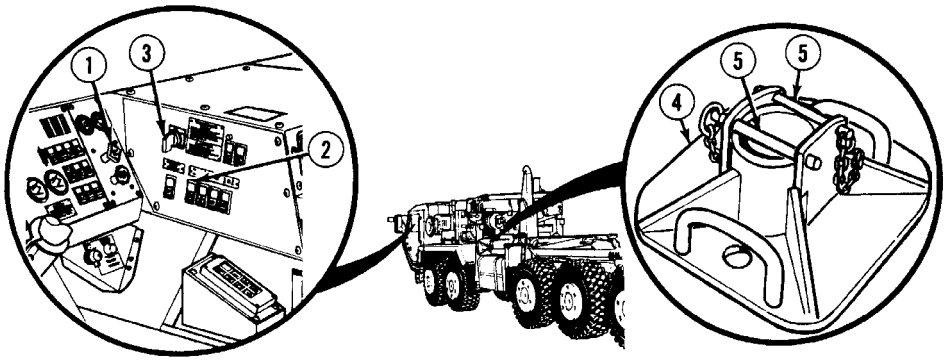
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death.	
96	Monthly	Outrigger Jacks	(a) Set parking brake (1). (b) Start engine. (c) If truck has self-recovery winch push SRW/CRANE switch (2) to the CRANE position. (d) Set hydraulic selector switch (3) to CRANE/SRW. (e) Set outrigger pads (4). Check that each pad has two retaining pins (5).	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

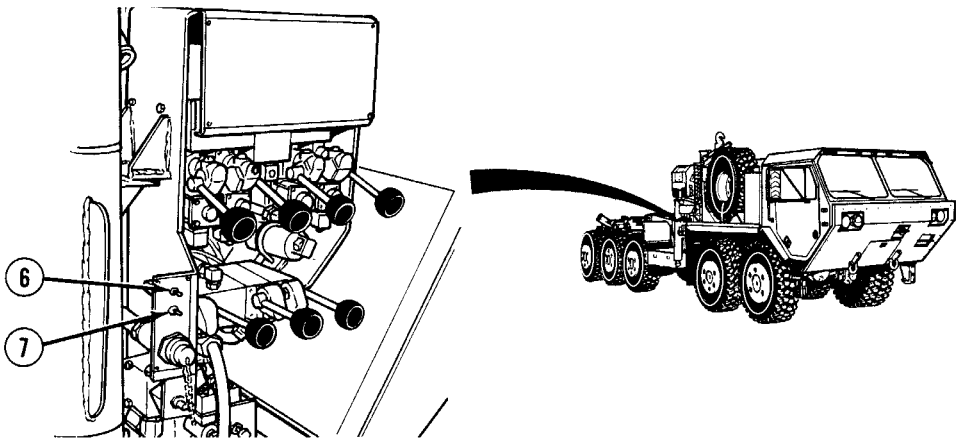
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE • Adjust outrigger pad position as required so ball end will lower into pad socket. • Crane will not operate unless outrigger jacks are firmly in place.	
96	Monthly	Outrigger Jacks - Cont.	(f) Turn crane POWER switch (6) to latch position. (g) Turn engine HIGH-IDLE switch (7) to LATCH and release.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

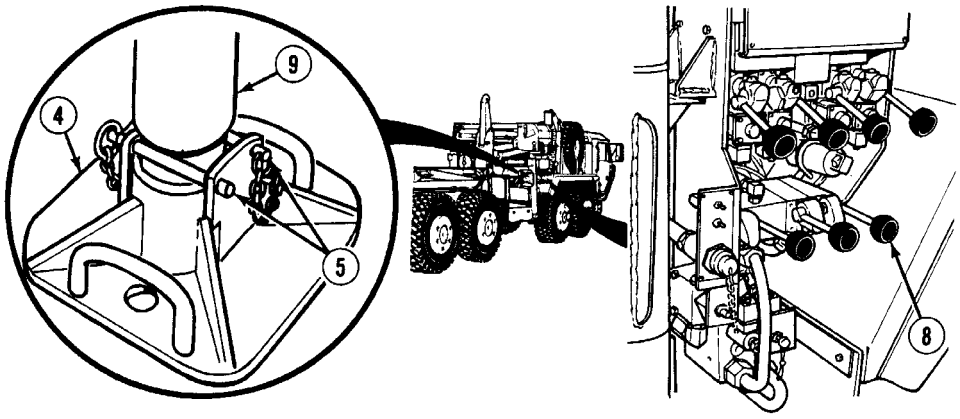
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING • Keep hands and feet away from outrigger jacks while operating lever to avoid injury. • Always use outrigger jack control valve on the same side of the truck as the outrigger jack being extended into outrigger pad or serious injury or death may result.	
			NOTE Crane will not operate unless outrigger jacks are firmly in place.	
96	Monthly	Outrigger Jacks - Cont.	(h) Move RH O/R JACK control lever (8) to DOWN position and lower outrigger jack cylinder (9) until ball end firmly seats in outrigger pad (4). Install retaining pins (5). Check that outrigger jack cylinder (9) comes down and lowers to the pad until truck weight is off suspension just enough so tires still have firm contact with the ground but do not bulge from weight.	Outrigger jacks will not extend.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

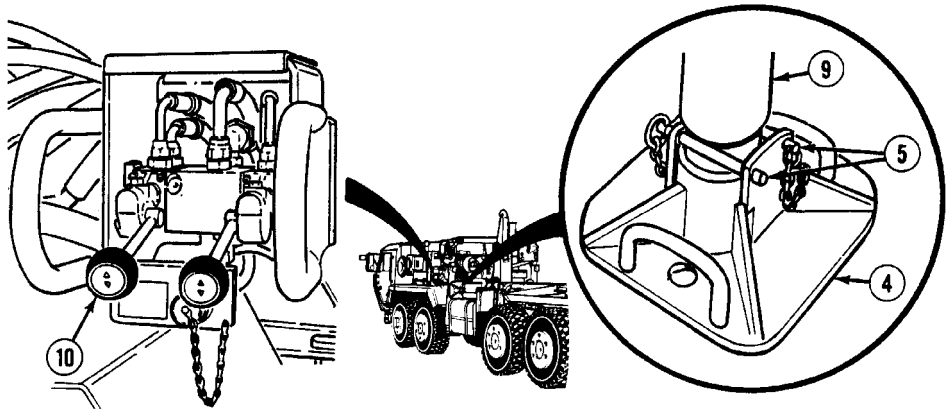
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING • Keep hands and feet away from outrigger jacks while operating lever to avoid injury. • Always use outrigger jack control valve on the same side of the truck as the outrigger jack being extended into outrigger pad or serious injury or death may result.	
			NOTE Crane will not operate unless outrigger jacks are firmly in place.	
96	Monthly	Outrigger Jacks - Cont.	(i) Move to drivers side of truck, and move LH O/R JACK control lever (10) to DOWN position and lower outrigger jack cylinder (9) until ball end firmly seats in outrigger pad (4). Install retaining pins (5). Check that outrigger jack cylinder (9) comes down and lowers to the pad until truck weight is off suspension just enough so tires still have firm contact with the ground but do not bulge from weight.	Outrigger jacks will not extend.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

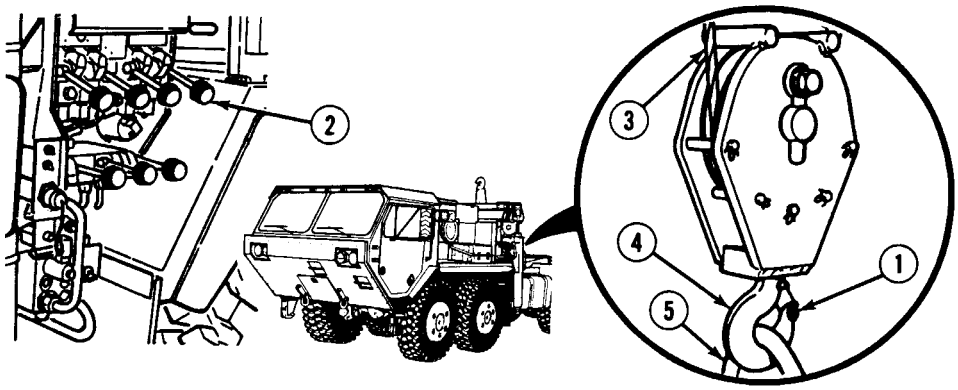
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death.	
97	Monthly	Crane Control Levers	(a) Remove locking pin (1). (b) Move HOIST control lever (2) to DOWN position and lower hoist cable (3) about 12 in. (305 mm).	Cable will not pay out.
			WARNING Care must be taken when disconnecting HOIST load hook from hook block tiedown. A swinging hook block can cause serious injury or death to personnel.	
			(c) Disconnect load hook (4) from hook block tie down (5). (d) Check load hook (4) for cracks. Hook will have to be replaced if cracked.	Hook is cracked.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

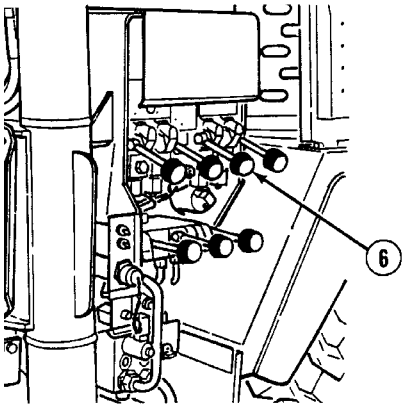
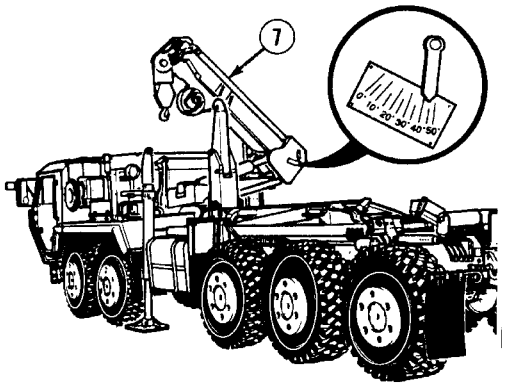
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			  **WARNING** • Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact. • Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death. • Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death. **CAUTION** • Do not hit outrigger jack with load hook or damage to equipment may occur. • Do not swing crane until boom is at 0 degrees and mast is fully extended or damage to equipment may occur.	
97	Monthly	Crane Control Levers - (Cont).	(e) Move BOOM control lever (6) to UP position until boom (7) is at 45 degree angle as shown on boom indicator.	Boom will not raise.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

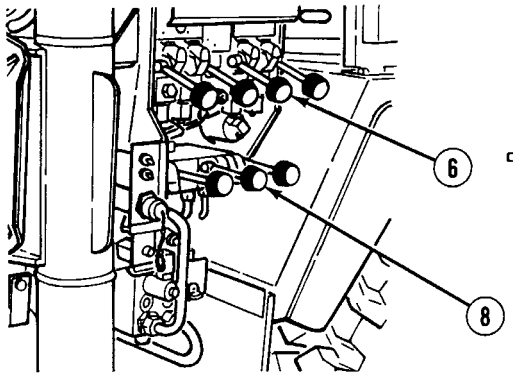
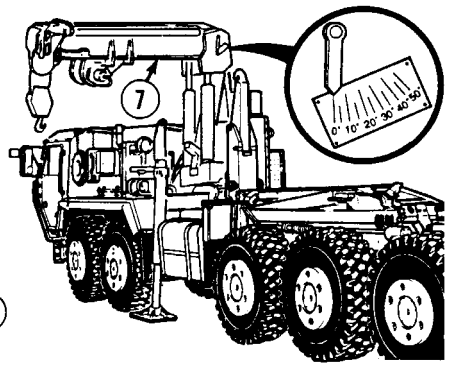
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 	
			WARNING Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.	
97	Monthly	Crane Control Levers - (Cont).	(f) Move MAST control lever (8) to UP position until mast cylinder is fully extended. (g) Move BOOM control lever (6) to raise boom (7) until boom indicator reads 0 degrees.	Mast will not raise.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

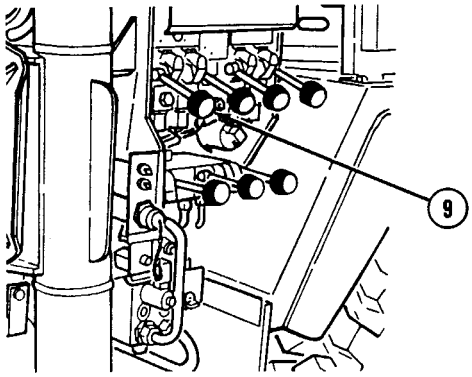
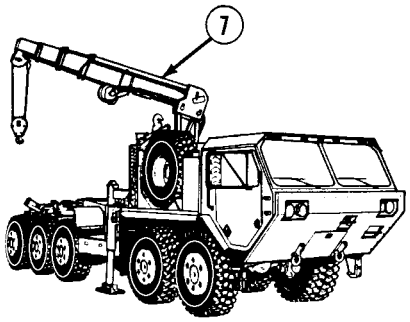
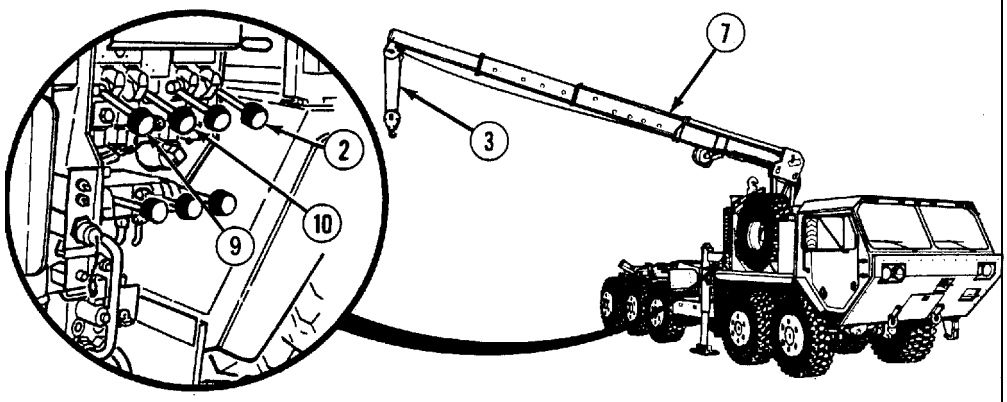
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			  **WARNING** Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death. **CAUTION** • Boom must be above truck side for clearance to avoid damage to truck or boom. • Boom must be horizontal or above for clearance over LHS hook arm to avoid damage to boom or hook arm. **NOTE** Rotation of crane is limited to 180 degrees.	
97	Monthly	Crane Control Levers - (Cont).	(h) Move SWING control lever (9) to CCW position to move boom (7) counterclockwise. Check that boom does not move clockwise.	Boom will not swing or moves in wrong direction.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
97	Monthly	Crane Control Levers - (Cont).	(i) Move SWING control lever (9) to clockwise position to move boom (7) clockwise. Check that boom does not turn counterclockwise. (j) Rotate boom counterclockwise to right side of truck, between outrigger jack and LHS hook.	

CAUTION

- Keep hook block at least two ft. (0.61 m) from end of boom. If hook block hits end of boom it may damage cable or hook block and crane will lose control functions. Wait six seconds for power to return and check crane for damage.
- Do not let cable unwind and become slack or cable may get tangled on drum.

NOTE

- Operate TELESCOPE and HOIST levers at the same time.
- Crane movements from one lever may be slower than other when operating two levers together.

			(k) Move TELESCOPE control lever (10) to OUT position to extend boom (7) while moving HOIST control lever (2) to DOWN position to pay out cable (3).	Boom will not telescope.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

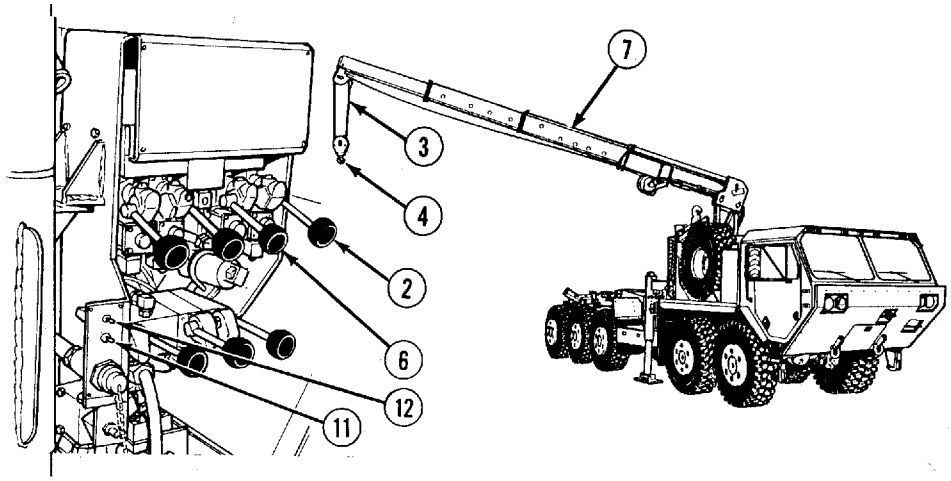
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
97	Monthly	Crane Control Levers - (Cont).	(l) Move BOOM control lever (6) to up position until boom (7) is at 45 degree angle.	
			CAUTION Do not let cable unwind and become slack or cable may get tangled on drum.	
			(m) Move HOIST control lever (2) to down position to pay out cable (3) until hook (4) touches ground. Observe that the cable moves freely. (n) Move BOOM control lever (6) to down position and lower boom as far as possible to allow cable to lay on ground. (o) Turn engine HIGH-IDLE switch (11) to UNLATCH. (p) Turn crane POWER switch (12) to OFF.	Hoist will not respond to controls.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

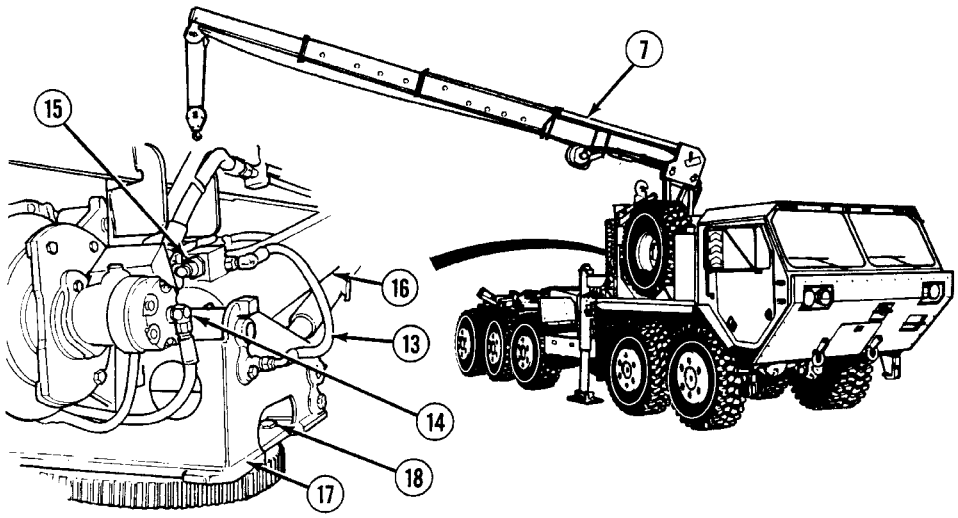
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
97	Monthly	Crane Control Levers - (Cont).	(q) Check first, second, third, and fourth extensions of boom (7) for broken welds and obvious damage.	
			WARNING Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury to death.	
			(r) Check all hoses (13), fittings (14), valves (15) and cylinders (16) for signs of leaks. (s) Check for cracked and broken welds (17). (t) Check turntable bearing bolts (18) for obvious looseness.	Class III leak is evident.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

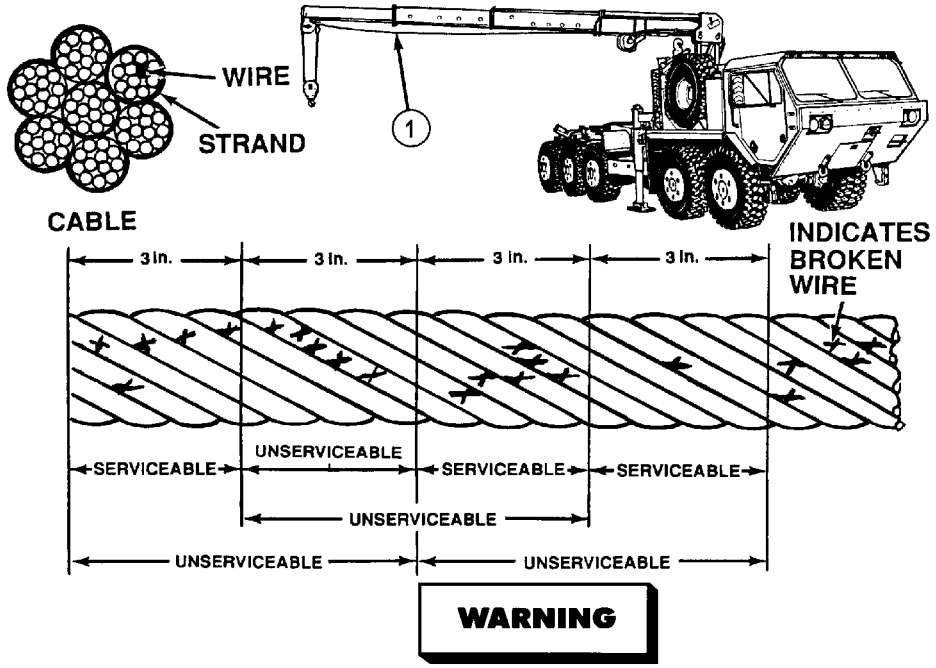
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING • Wire rope can become frayed or contain broken wires. Wear heavy leather-palmed work gloves when handling wire rope. Frayed or broken wires can injure hands. • Never let moving wire rope slide through hands, even when wearing gloves. A broken wire could cut through glove and cut hand.	
98	Monthly	Hoist Cable	(a) Check hoist cable (1) for broken wires and kinks. If in doubt notify Unit Maintenance.	Hoist cable has more than three broken wires per three in. section on same strand. The maximum number of broken wires shall not occur in any two consecutive three in. sections of cable. That is, if six wires are broken in one three in. section of cable, none would be allowed in the next consecutive three in. section.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

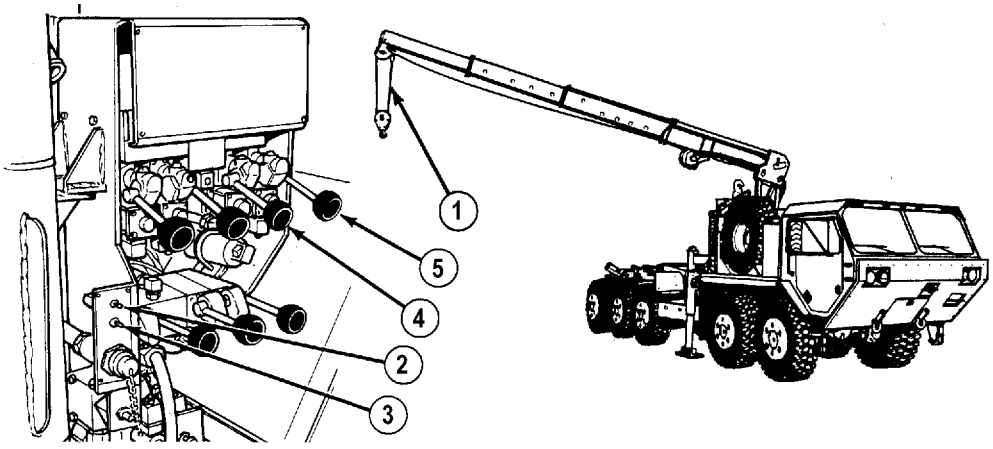
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			CAUTION Do not let cable become slack or cable may become tangled on drum and damage to drum may occur.	
98	Monthly	Hoist Cable - (Cont).	(b) Turn crane POWER switch (2) to ON. (c) Turn engine HIGH-IDLE switch (3) to LATCH. (d) Move BOOM control lever (4) to UP position until boom is at 45 degrees and cable is off ground. (e) Move HOIST control lever (5) in UP position to reel in cable (1) and check cable for kinks and uneven winding as it moves. (f) Turn engine HIGH-IDLE switch (3) to UNLATCH.	Hoist cable is kinked.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

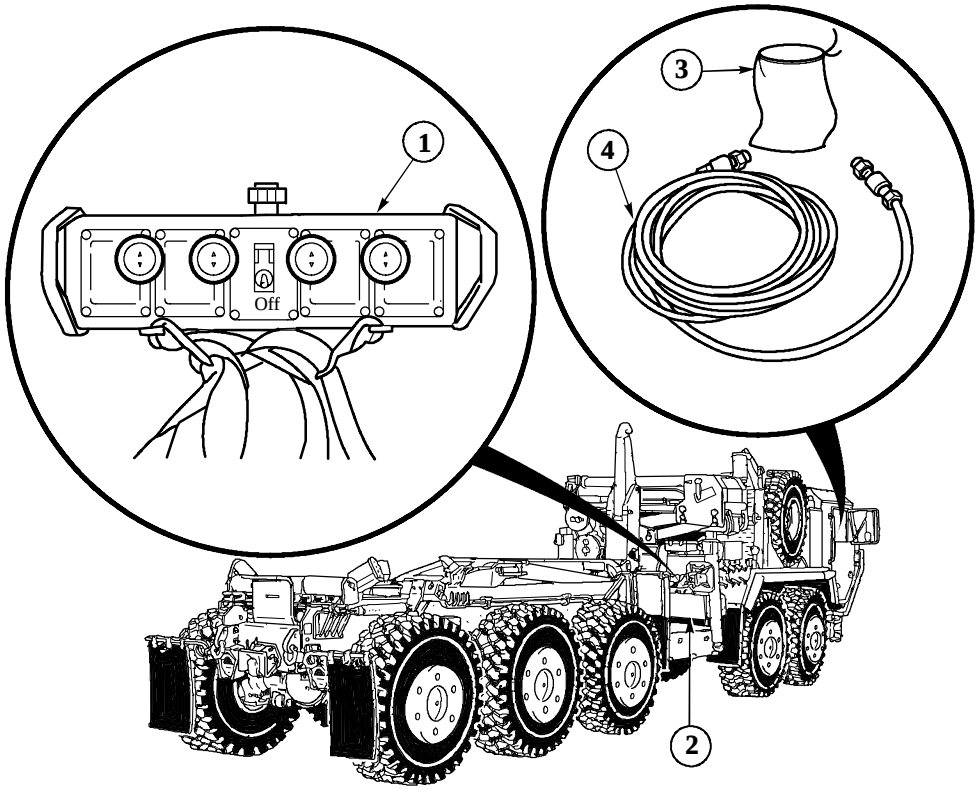
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
99	Monthly	Crane Remote Controls	(a) Remove REMOTE CONTROL UNIT (1) from stowage box (2). (b) Check crane REMOTE CONTROL UNIT (1) for obvious damage. (c) Remove remote control cable bag (3) from behind passenger seat. (d) Remove remote control cable (4) from remote control cable bag (3).	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

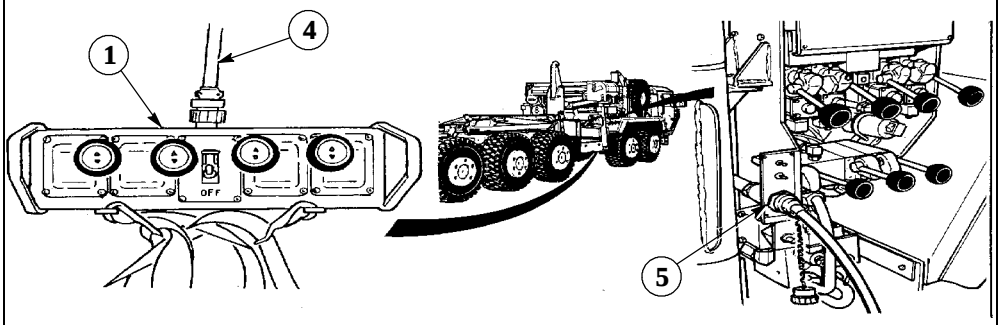
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING Ensure REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch is in OFF position and switch guard is closed before connecting REMOTE CONTROL UNIT. Crane moving out of control could cause serious injury or death.	
99	Monthly	Crane Remote Controls - (Cont).	(e) Remove protective caps from cable (4), REMOTE CONTROL (1) and REMOTE CONTROL OUTLET (5). Connect REMOTE CONTROL UNIT (1) to RH REMOTE CONTROL OUTLET (5) with cable (4). Connect protective caps.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

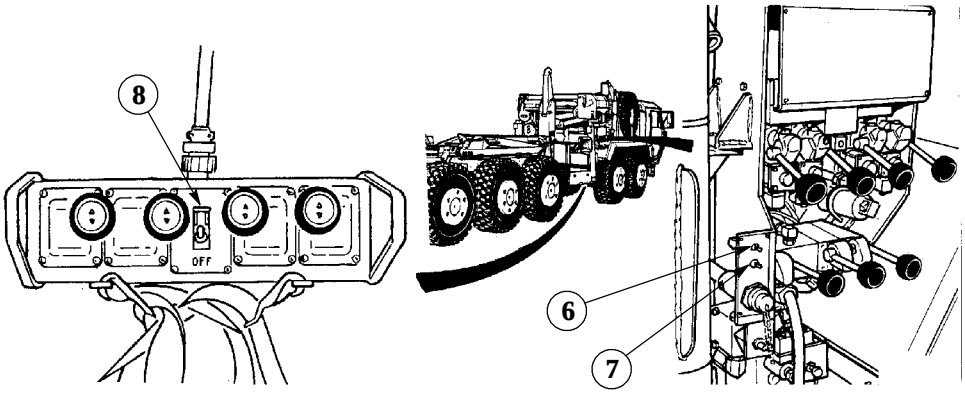
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.	
99	Monthly	Crane Remote Controls - (Cont).	(f) Check that crane POWER (6) and ENGINE HIGH IDLE/ON/OFF/LATCH (7) does not operate when REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch (8) is in OFF position. (g) Check that remote control does not operate when REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch (8) is in OFF position. (h) Turn REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch (8) to ON position. Engine rpm should audibly increase.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

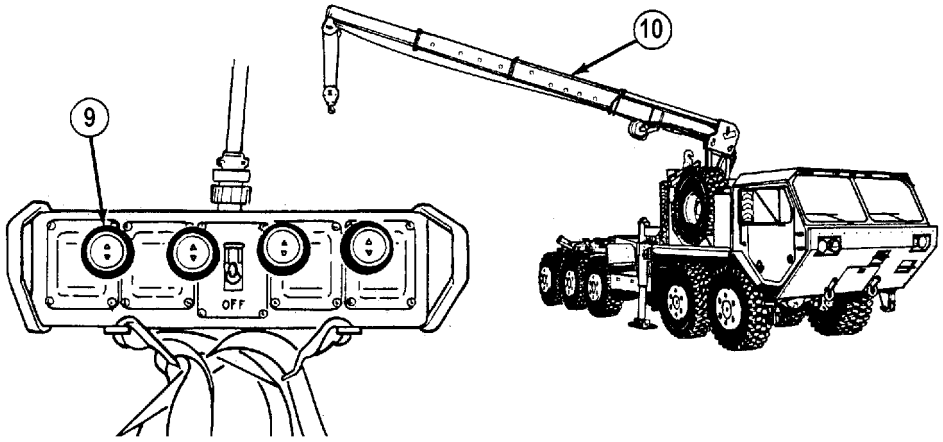
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			WARNING • Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death. • If electrical power fails during crane operation, move switch on remote control unit to SHUTDOWN position. Serious injury could result from uncontrolled moving parts.	
			CAUTION Boom must be horizontal or above for clearance over LHS hook arm to avoid damage to truck boom or hook arm.	
			NOTE Operate control levers with light even pressure. Moving lever slightly will cause slow movement of crane. Moving lever to full travel will cause faster movement of crane. Rotation of the crane is limited to 180 degrees.	
99	Monthly	Crane Remote Controls - (Cont).	(i) Move SWING control lever (9) in CCW position to turn boom (10) counterclockwise. Be sure boom rotates counterclockwise.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

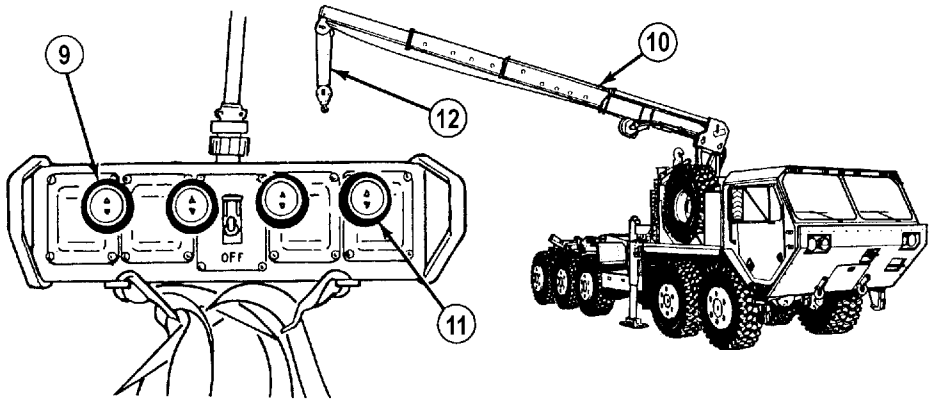
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
99	Monthly	Crane Remote Controls - (Cont).	(j) Move SWING control lever (9) to CW position to turn boom (10) clockwise. Be sure boom turns in the clockwise direction.	
			WARNING Keep boom clear of all electrical lines and obstacles while operating crane. Serious injury or death could result on contact.	
			CAUTION • Keep hook block at least two ft. (0.61 m) from end of boom. If hook block hits end of boom it may damage cable or hook block and crane will lose control functions. Wait six seconds for power to return and check crane for damage. • Do not let cable become slack or cable may get tangled on drum.	
			(k) Move HOIST control lever (11) to DOWN position to pay out cable (12) approximately two ft. (0.61 m). Move HOIST control lever (11) to UP position to take up cable (12).	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

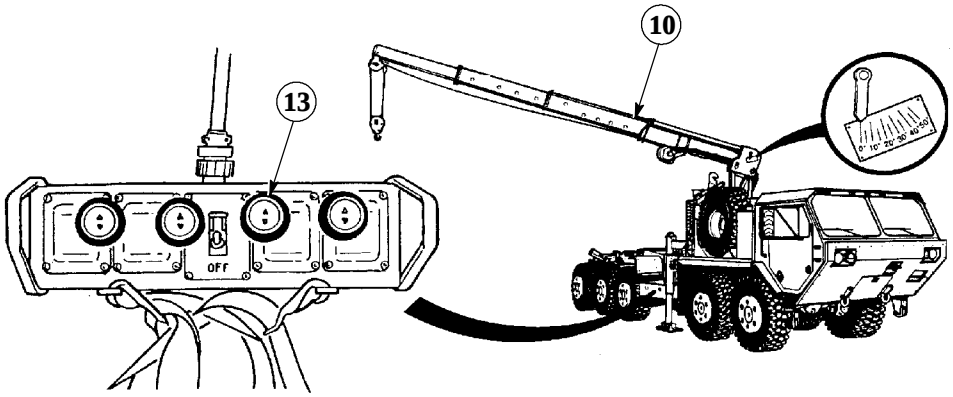
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
99	Monthly	Crane Remote Controls - (Cont).	(l) Move BOOM control lever (13) to UP position to raise boom (10). Move BOOM control lever (13) to DOWN position to lower boom (10) to 0 degrees on boom angle indicator.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

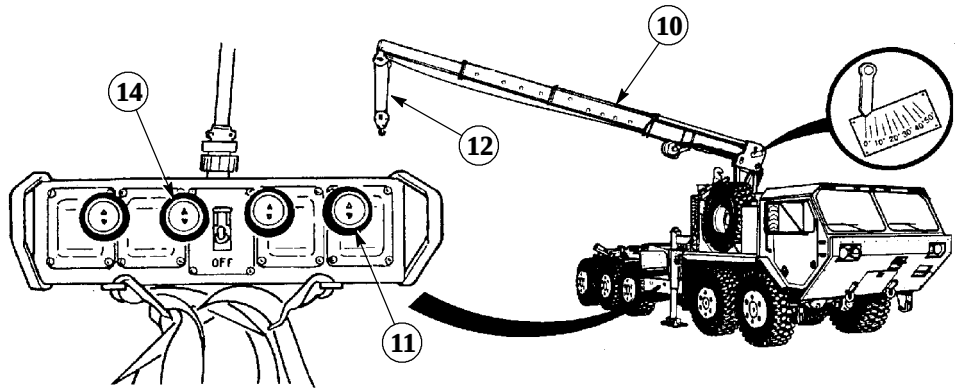
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			CAUTION • Keep hook block at least two ft. (0.61 m) from end of boom. If hook block hits end of boom it may damage cable or hook block and crane will lose control functions. Wait six seconds for power to return and check crane for damage. • Do not let cable become slack or cable may get tangled on drum or damage may occur.	
			NOTE • When using telescope, operate TELESCOPE and HOIST levers at the same time. • Crane movement from one lever may be slower than other when operating two levers together.	
99	Monthly	Crane Remote Controls - (Cont).	(m) Move TELESCOPE control lever (14) to IN position to retract boom (10) approximately two ft. (0.61 m) while moving HOIST control lever (11) in UP position to reel in cable (12). Check that cable reels in.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

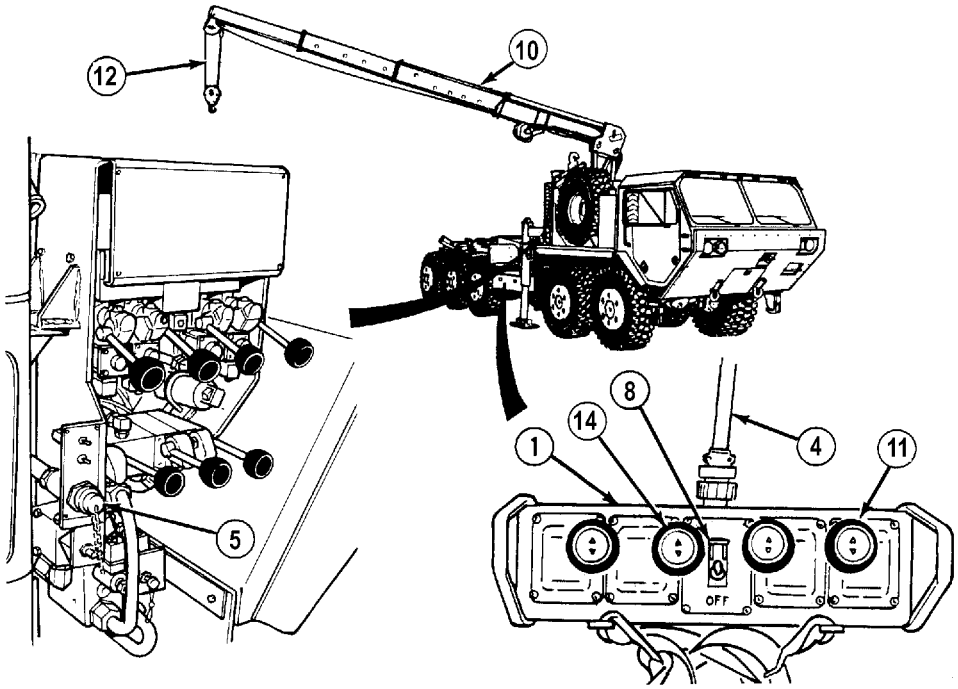
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
99	Monthly	Crane Remote Controls - (Cont).	(n) Move TELESCOPE control lever (14) to OUT position to extend boom (10) while moving HOIST control lever (11) to DOWN position to pay out cable (12). (o) Shut off REMOTE CONTROL/EMERGENCY STOP/ON/ OFF POWER switch (8). (p) Disconnect protective caps and REMOTE CONTROL (1) and cable (4) from RH Remote Control Hookup (5). (q) Install protective cap to RH REMOTE CONTROL OUTLET (5).	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

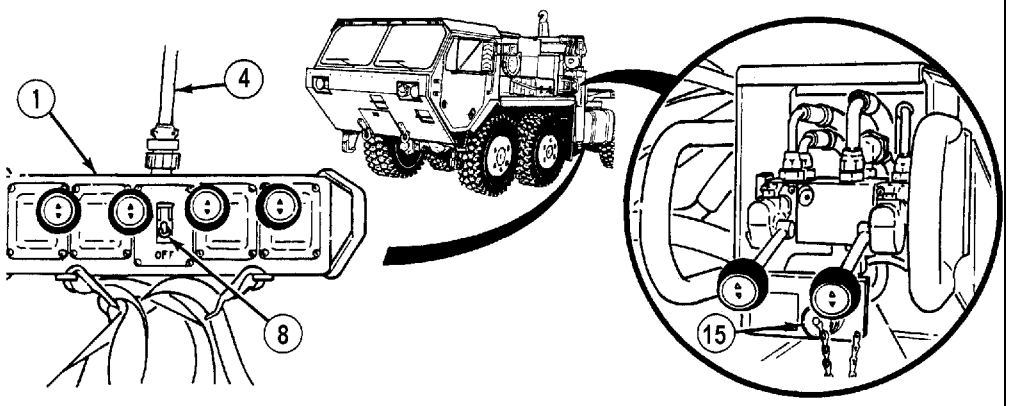
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
99	Monthly	Crane Remote Controls - (Cont).	(r) Remove protective cap from LH REMOTE CONTROL outlet (15). (s) Repeat Steps (f) through (o) and check operation of crane remote control levers. (t) Shut off REMOTE CONTROL/ EMERGENCY STOP/ON/OFF POWER switch (8). (u) Disconnect protective caps and REMOTE CONTROL (1) and cable (4) from LH REMOTE CONTROL OUTLET (15). (v) Install protective caps to cable (4) and LH REMOTE CONTROL outlet (15). (w) Disconnect and stow REMOTE CONTROL UNIT (1) and cable (4). (x) Stow crane (Para 2-30). (y) Stow outrigger jacks (Para 2-30).	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

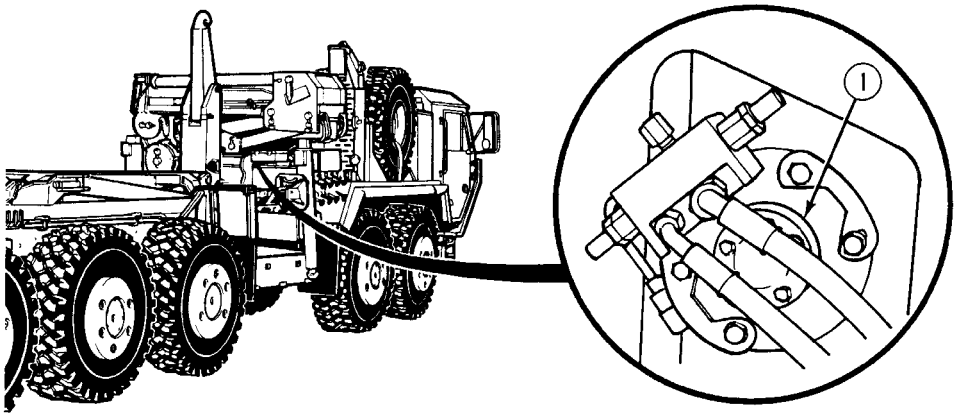
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100	Monthly	Crane Swing Gear and Motor	Check for loose and leaking connections and mountings around crane swing gear motor (1).	Class III leak is evident.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

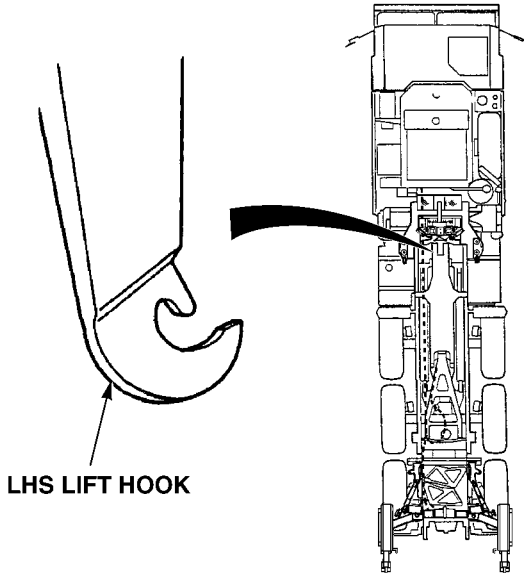
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE • When using a grease gun, apply lubricant to the fitting until clean lubricant squeezes out of the part being lubricated. • If the part being lubricated does not purge clean lubricant, notify Unit Maintenance. • The 50 hour interval is based on actual LHS operating hours. The hours can be tracked by the operator and recorded in the log book. The LHS should be lubricated on a monthly or 50 actual operating hour interval, whichever comes first. • Apply grease to lift hook more often if PLS truck mileage is low, but LHS usage is high.	
100.1	Monthly	Load Handling System (LHS)	(a) Lubricate LHS lift hook with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

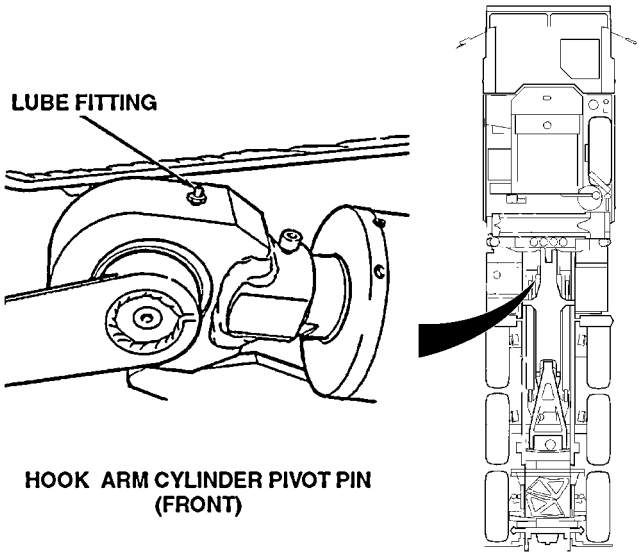
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 HOOK ARM CYLINDER PIVOT PIN (FRONT)	
100.1	Monthly	Load Handling System (LHS) (Cont).	(b) Lubricate LHS hook arm cylinder pivot pin (front) (2 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

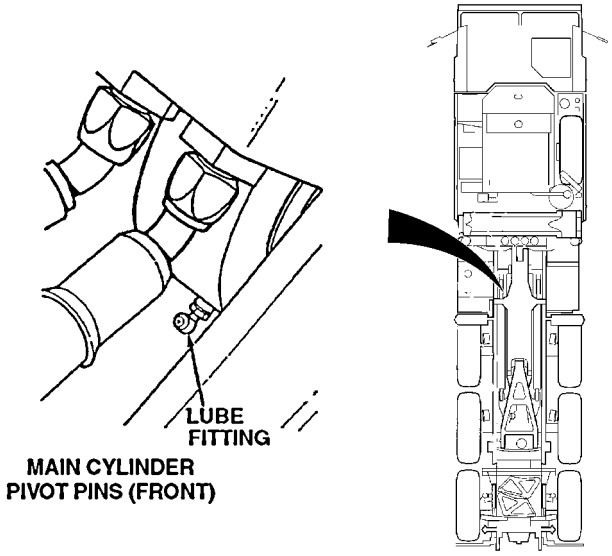
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.1	Monthly	Load Handling System (LHS) (Cont).	(c) Lubricate LHS main cylinder pins (2 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

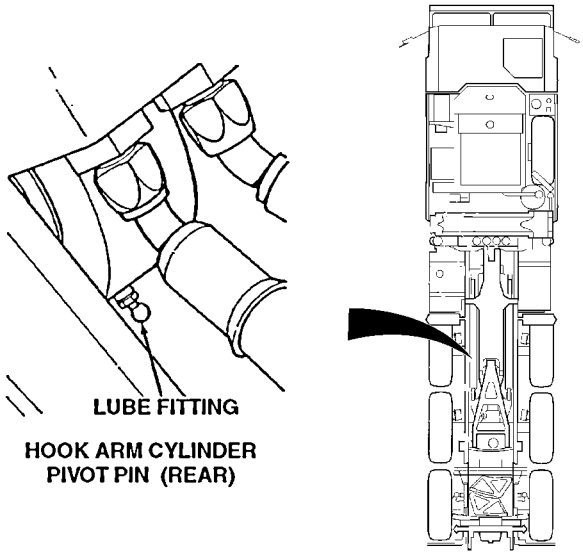
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE To allow access to the hook arm cylinder rear grease fittings and LHS hook arm pin, LHS should be fully extended.	
100.1	Monthly	Load Handling System (LHS) (Cont).	(d) Lubricate LHS hook arm cylinder pivot pin (rear) (2 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

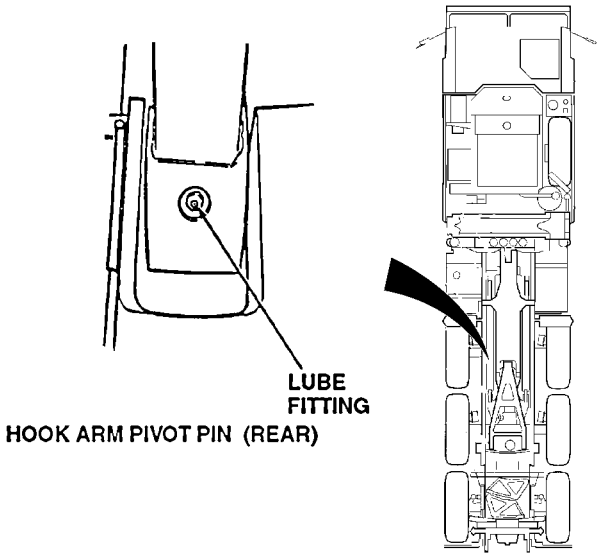
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.1	Monthly	Load Handling System (LHS) (Cont).	(e) Lubricate LHS hook arm pivot pin (rear) (2 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

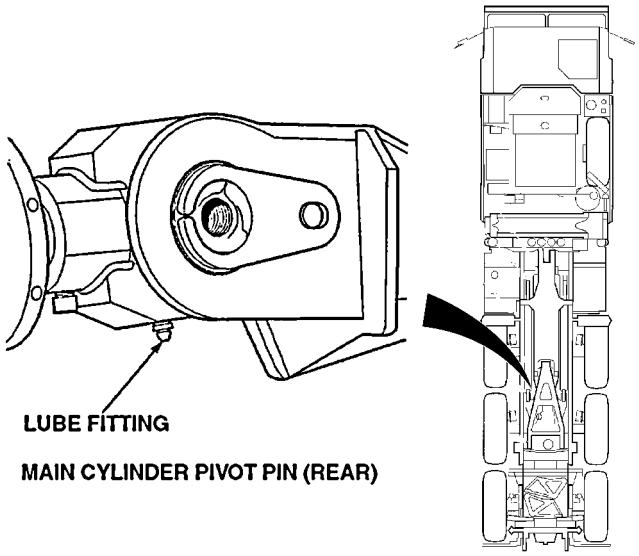
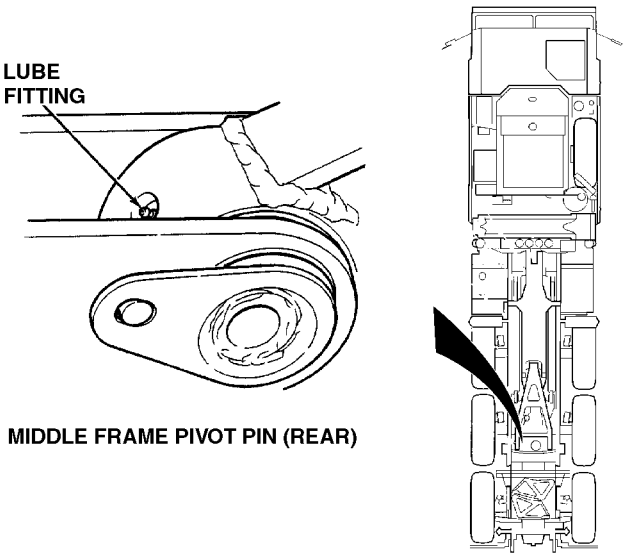
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.1	Monthly	Load Handling System (LHS) (Cont).	(f) Lubricate LHS main cylinder pivot pin (rear) (2 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:



MIDDLE FRAME PIVOT PIN (REAR)

100.1	Monthly	Load Handling System (LHS) (Cont).	(g) Lubricate LHS middle frame pivot pin (rear) (2 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

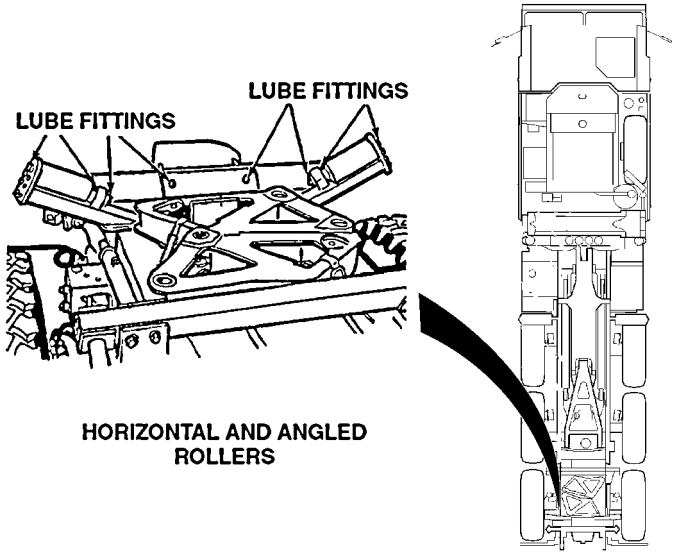
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.1	Monthly	Load Handling System (LHS) (Cont).	(h) Lubricate LHS horizontal and angled rollers (4 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

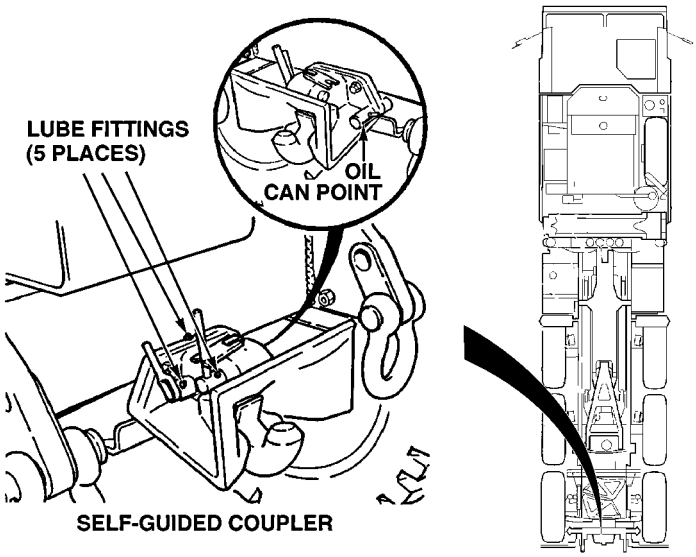
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.1	Monthly	Load Handling System (LHS) (Cont).	(i) Lubricate LHS self-guided coupler (5 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

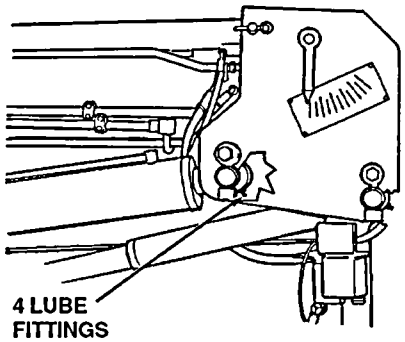
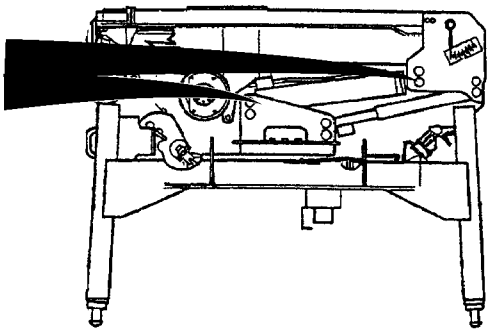
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			  LIFT CYLINDER	
			NOTE • When using a grease gun, apply lubricant to the fitting until clean lubricant squeezes out of the part being lubricated. • If the part being lubricated does not purge clean lubricant, notify Unit Maintenance. • The 50 hour interval is based on actual LHS operating hours. The hours can be tracked by the operator and recorded in the log book. The LHS should be lubricated on a monthly or 50 actual operating hour interval, whichever comes first.	
100.2	Monthly	Crane	(a) Lubricate crane lift cylinder (4 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

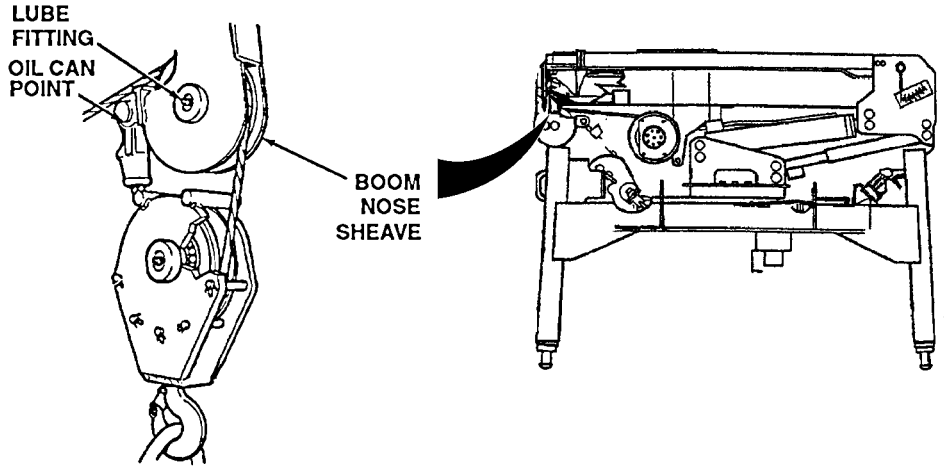
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.2	Monthly	Crane (Cont).	(b) Lubricate crane hoist cable clevis with OE/HDO. (c) Lubricate crane boom nose sheave (1 fitting) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

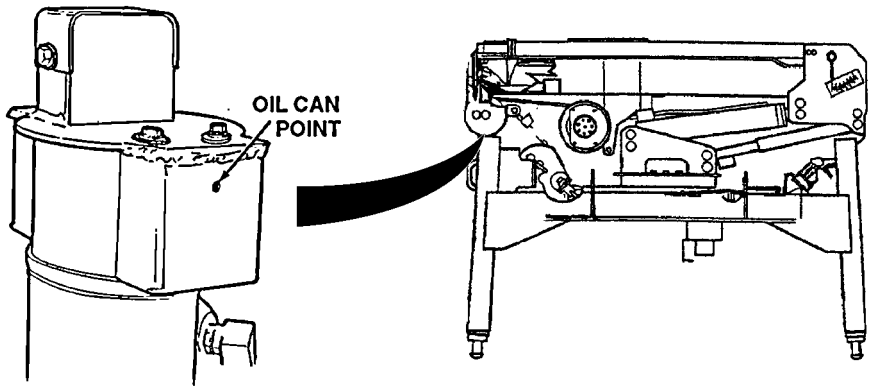
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 JACK CYLINDER COVER	
			NOTE Use oil can sparingly. A single oil can application at each oil can hole is required.	
100.2	Monthly	Crane (Cont).	(d) Lubricate crane jack cylinder with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

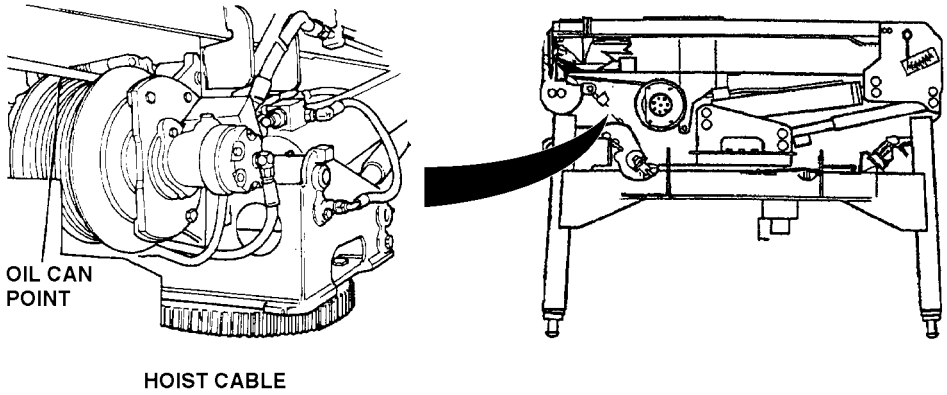
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.2	Monthly	Crane (Cont).	(e) Clean crane hoist cable and lubricate with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

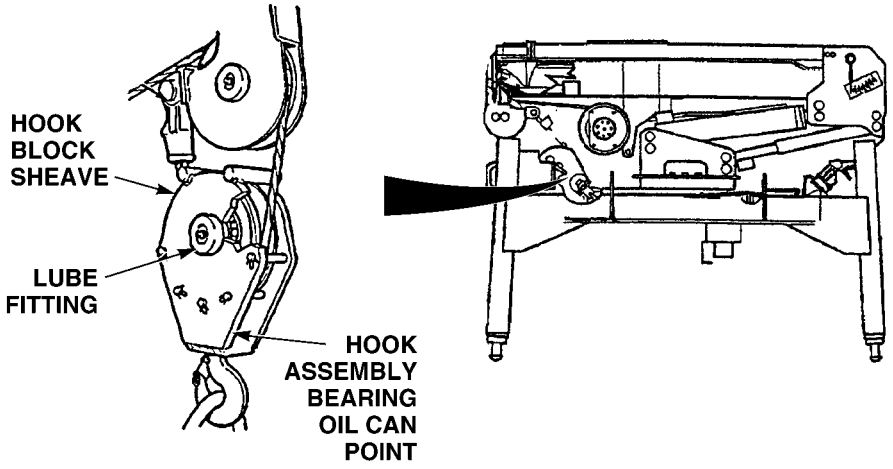
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.2	Monthly	Crane (Cont).	(f) Lubricate crane hook block sheave (1 fitting) with GAA. (g) Lubricate crane hook assembly bearing with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

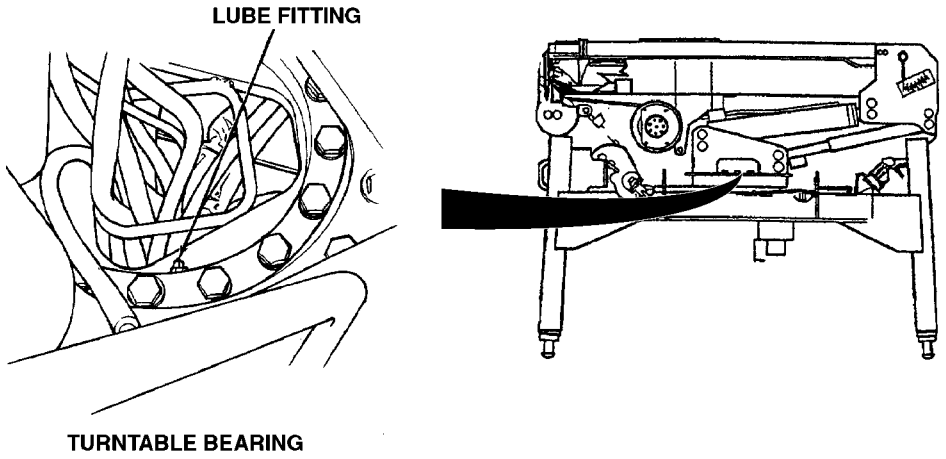
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.2	Monthly	Crane (Cont).	(h) Raise mast until turntable bearing lube fitting comes into view. Turn and lubricate every 90 degrees with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

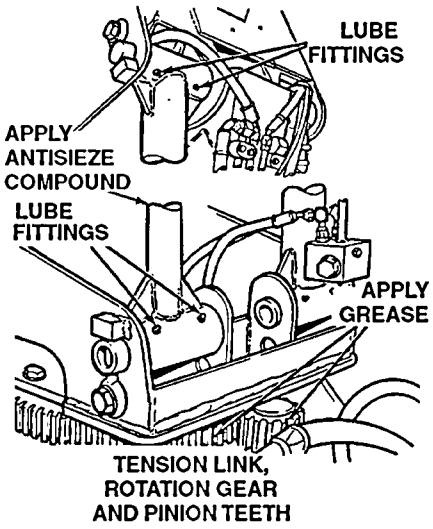
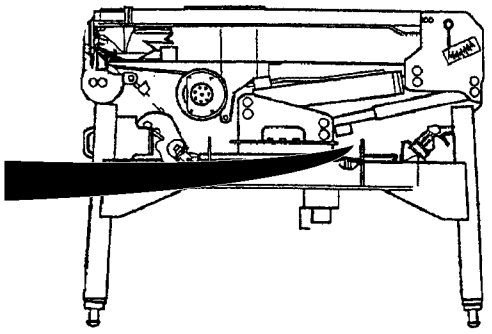
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 	
			NOTE Lubricate exposed rotation gears more often when cranes are operated in sandy or dusty conditions.	
100.2	Monthly	Crane (Cont).	(i) Coat teeth of crane rotation gear lightly with GAA. (j) Lubricate crane tension link (4 fittings with GAA. (k) Apply antiseize to crane tension link.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

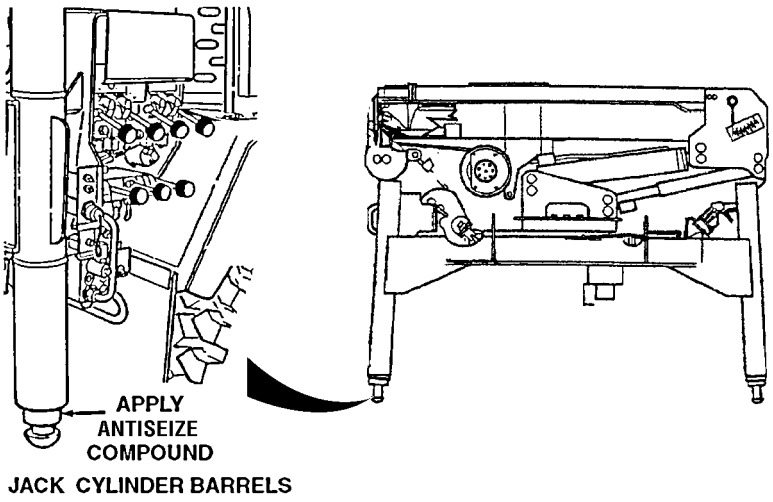
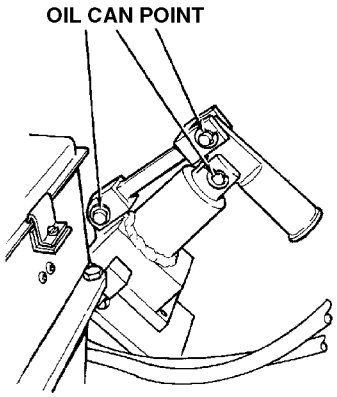
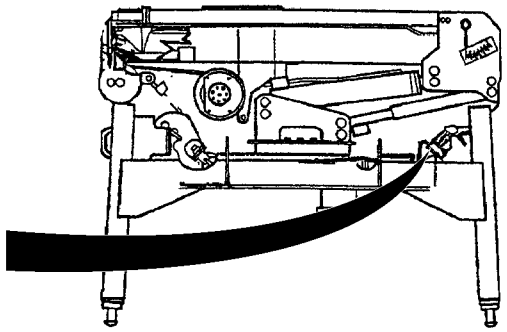
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
 JACK CYLINDER BARRELS				
100.2	Monthly	Crane (Cont).	(l) Apply antiseize to crane jack cylinder barrels.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:



CRANE HAND PUMP



100.2	Monthly	Crane (Cont).	(m) Lubricate both sides of crane hand pump with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

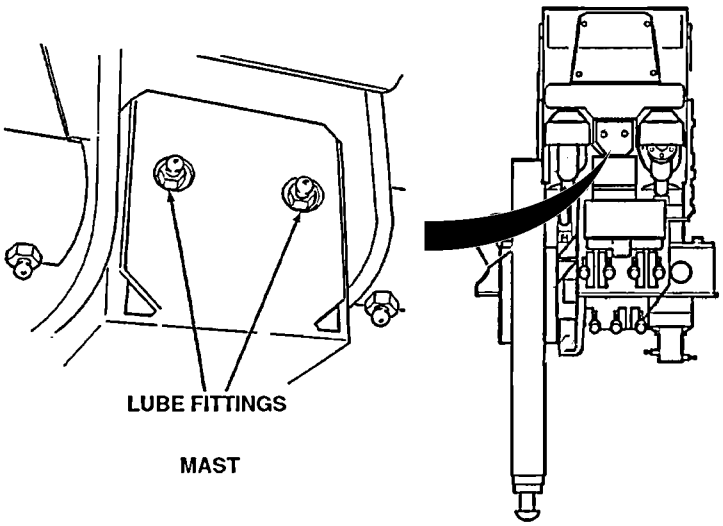
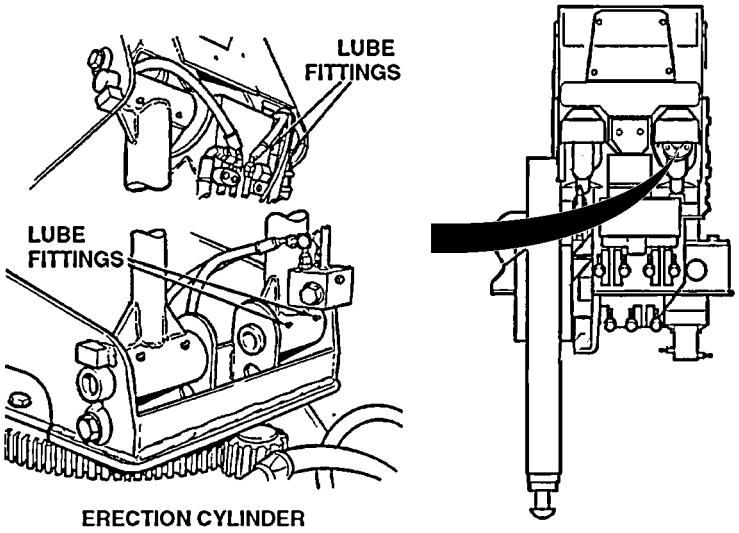
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.2	Monthly	Crane (Cont).	(n) Lubricate crane mast (4 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:



ERECTION CYLINDER

100.2	Monthly	Crane (Cont).	(o) Extend crane and lubricate crane erection cylinder (4 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

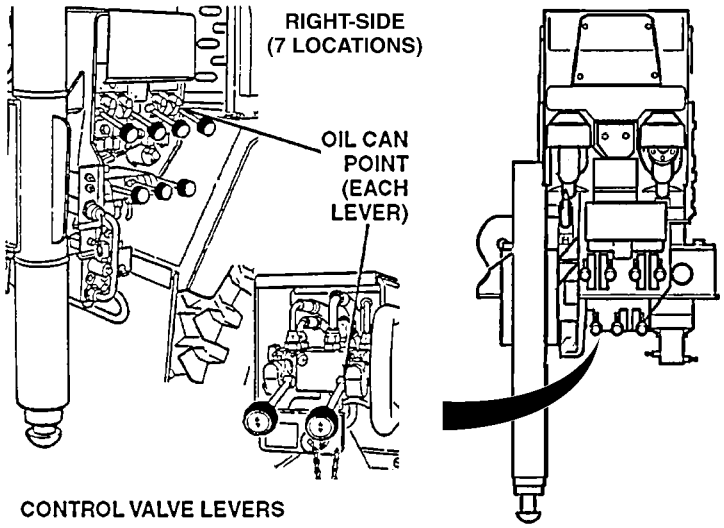
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.2	Monthly	Crane (Cont).	(p) Lubricate crane control valve levers with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

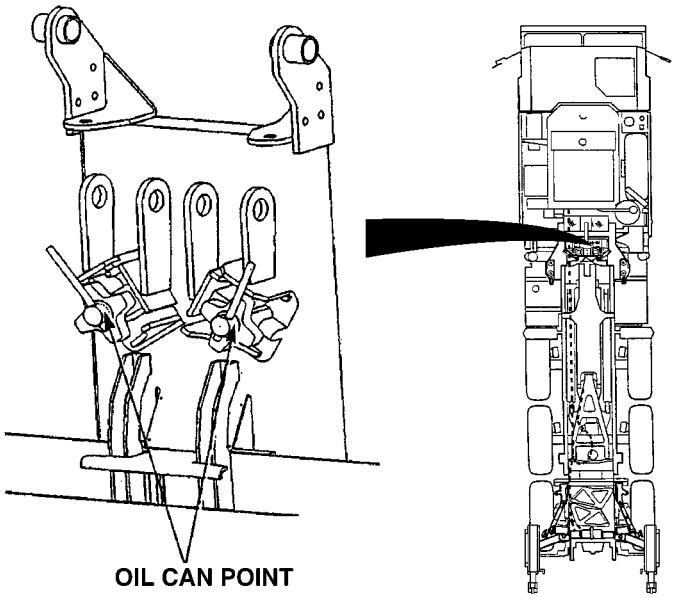
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 RAIL STRUT ISO LOCKS	
100.3	Monthly	Container Handling Unit (CHU Kit)	(a) Lubricate rail strut ISO locks with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

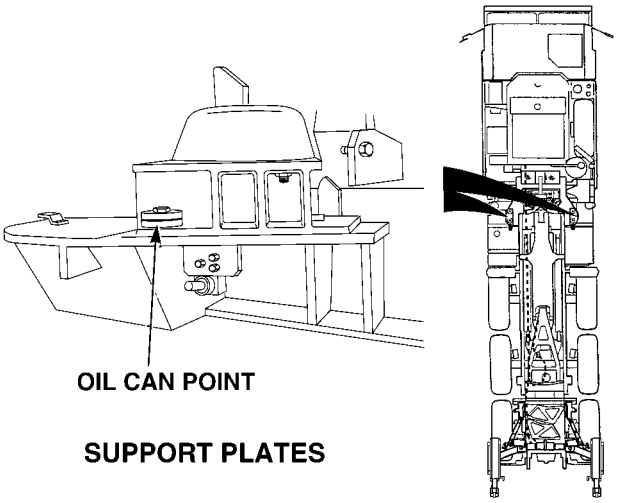
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(b) Lubricate CHU bumper supports with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

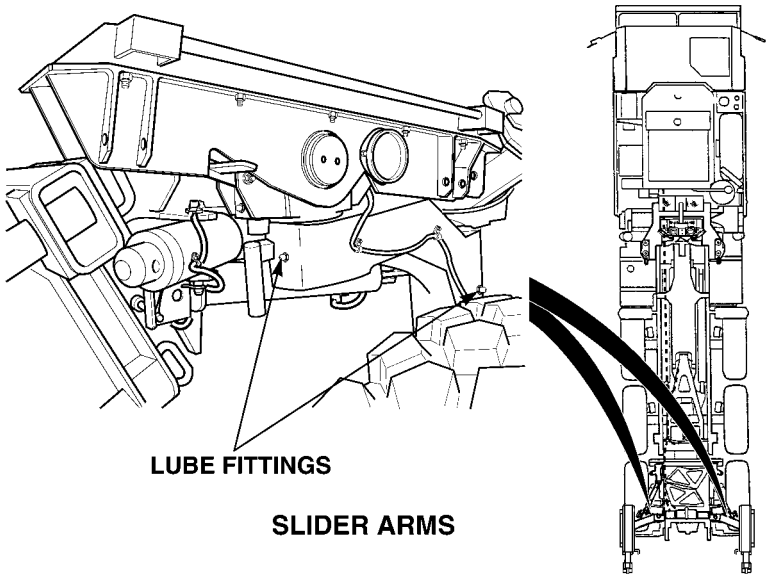
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			NOTE • Lubricate fittings with a manual grease gun. Do not use an air powered grease gun. • When using a grease gun, apply lubricant to the fitting until clean lubricant squeezes out of the part being lubricated. • If the part being lubricated does not purge clean lubricant, notify Unit Maintenance.	
100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(c) Lubricate CHU slider arms (4 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

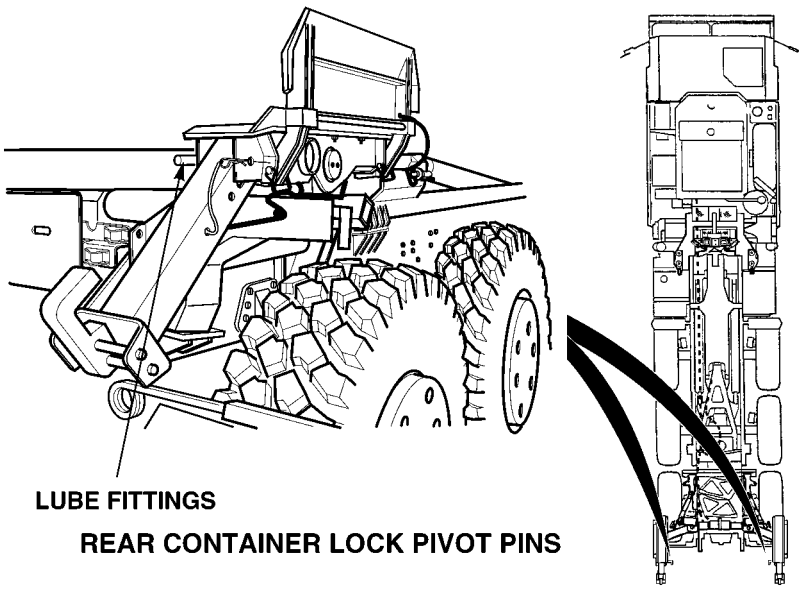
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
 REAR CONTAINER LOCK PIVOT PINS				
100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(d) Lubricate CHU container lock pivot pins (2 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

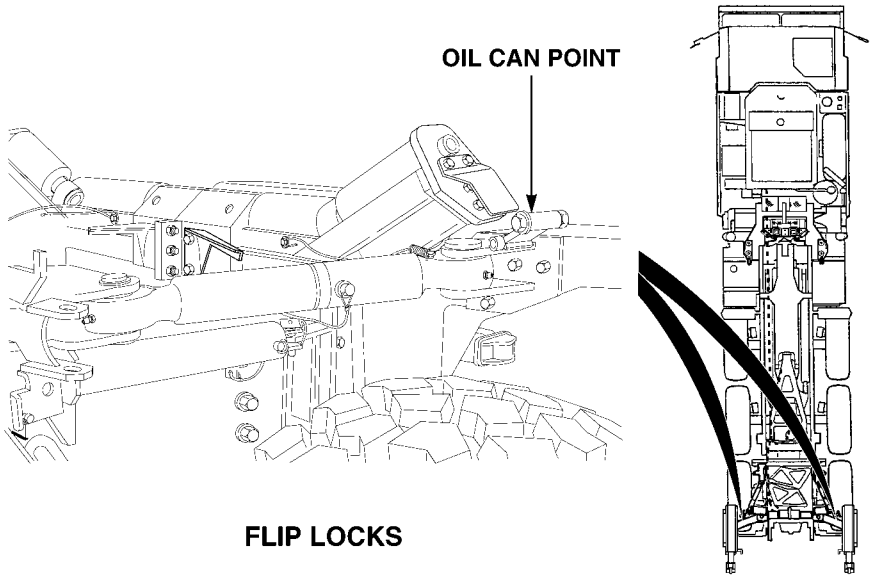
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
 FLIP LOCKS				
100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(e) Lubricate CHU flip locks with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

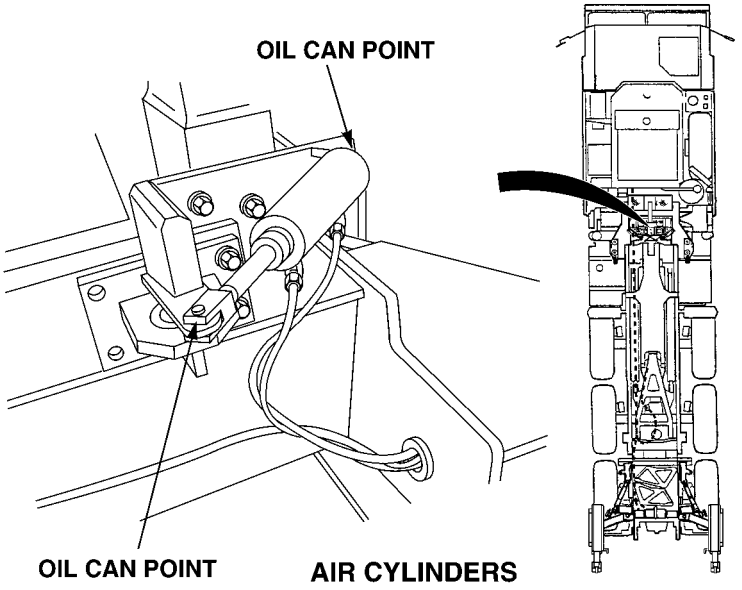
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(f) Lubricate CHU air cylinders with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

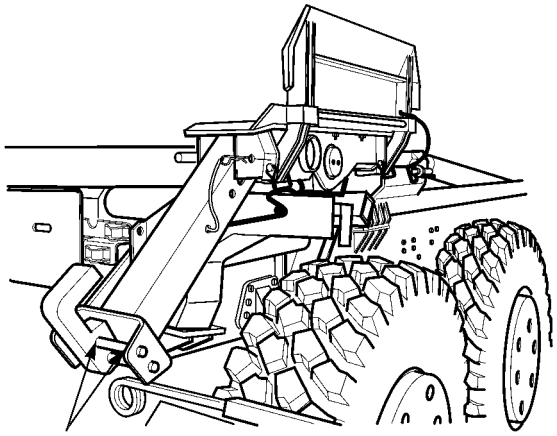
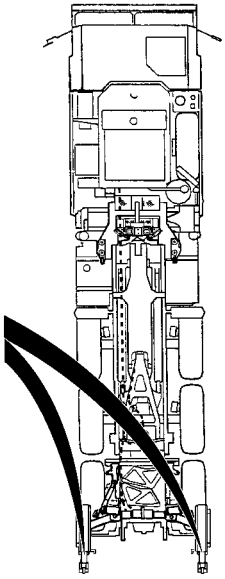
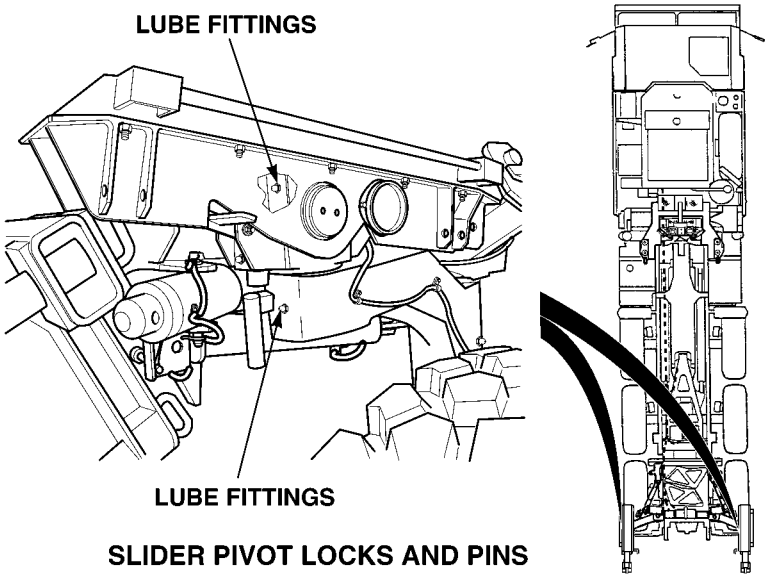
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 OIL CAN POINTS  REAR CONTAINER LOCKS	
100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(g) Lubricate CHU rear container locks with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:



SLIDER PIVOT LOCKS AND PINS

100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(h) Lubricate CHU slider pivot locks (2 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

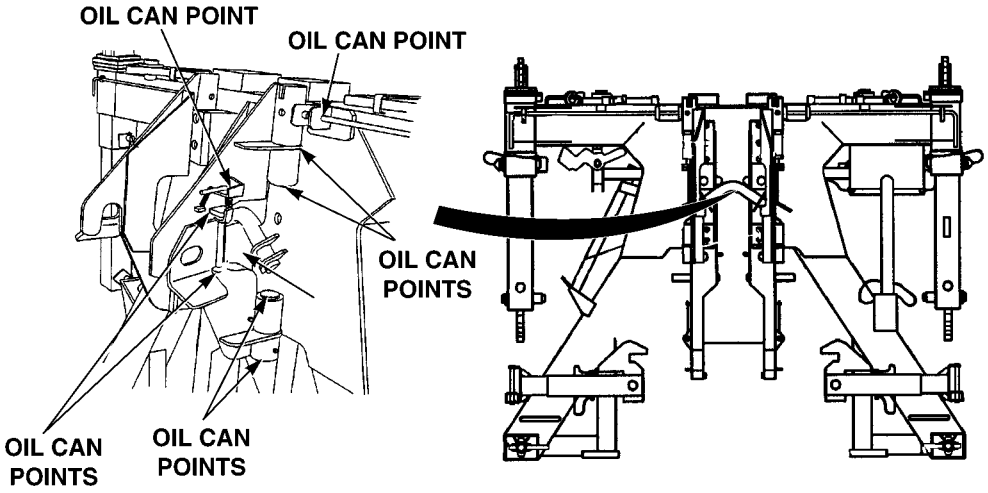
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
			FLIPPER LOCK PINS, BRACKET LOCK PLATE, LOCK PINS AND FLIPPERS	
100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(i) Lubricate CHU flipper lock pins, bracket lock plate, bracket lock plate lock pins, and flippers with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

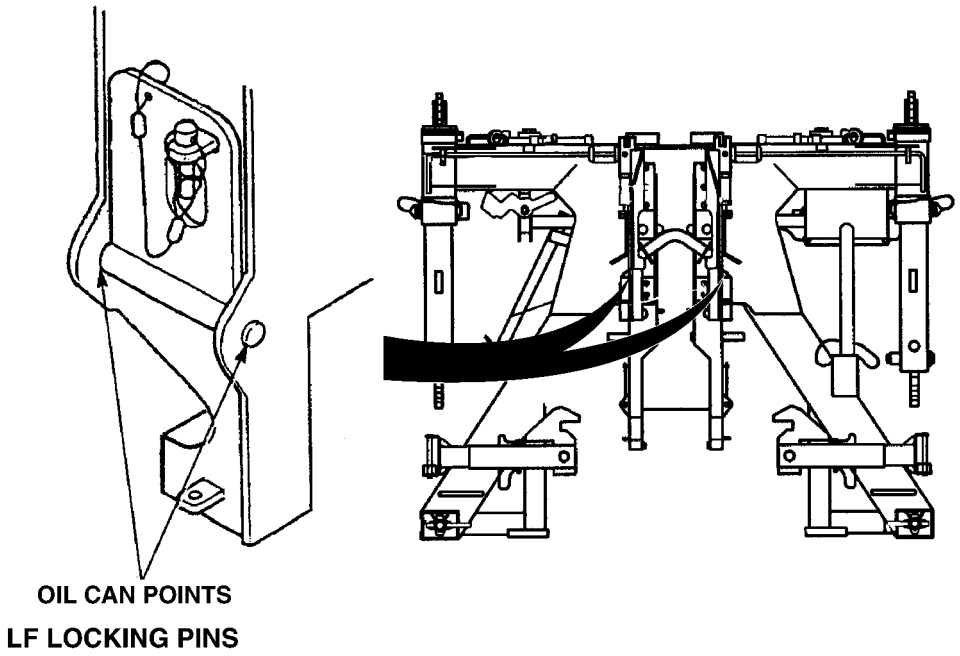
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(j) Lubricate CHU LF locking pins with OE/HDO.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

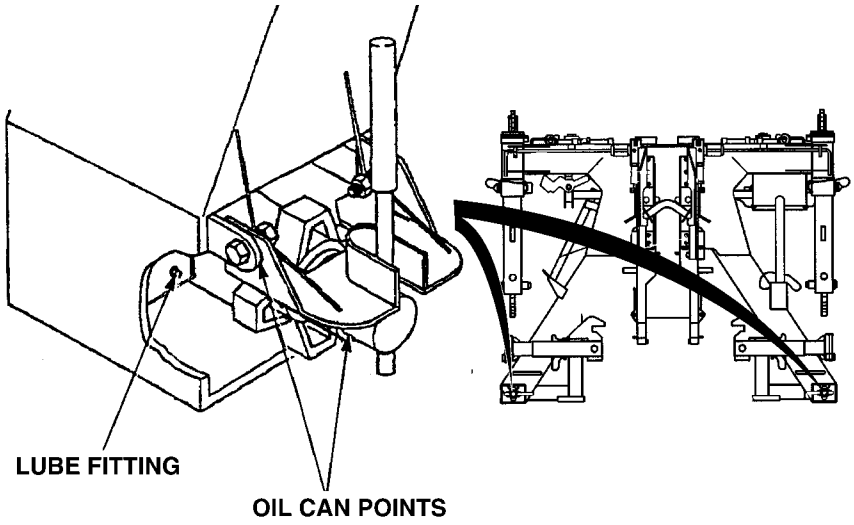
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 LF ISO TWIST LOCKS	
100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(k) Lubricate CHU LF ISO twist locks with OE/HDO. (l) Lubricate CHU LF ISO twist locks (2 fittings) with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

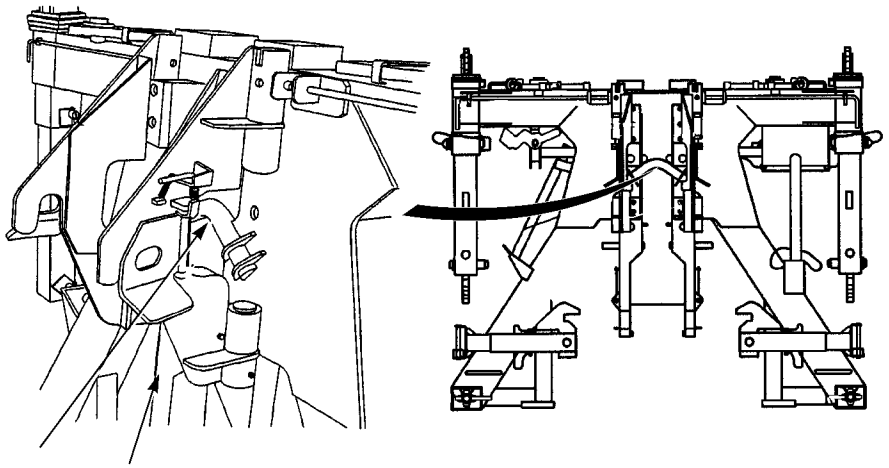
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
 APPLY GREASE LF HOOK BAR				
100.3	Monthly	Container Handling Unit (CHU Kit) (Cont).	(m) Clean CHU lifting frame hook bar and coat with GAA.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly)

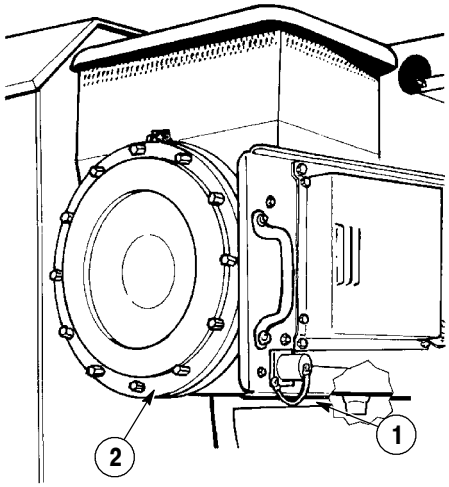
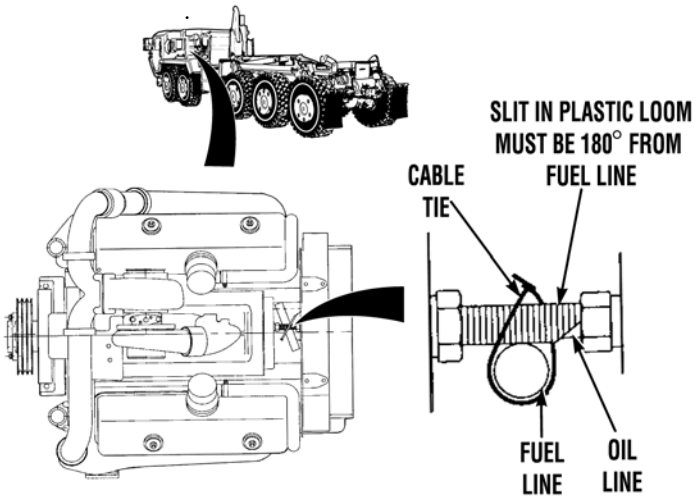
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
101	Monthly	Air Filter	Squeeze bleeder valve (1) to allow removal of dirt and moisture from housing (2).	
				
101.1	Monthly	Blower Lubrication Line	Check for wear on oil line.	Class III leak is evident.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

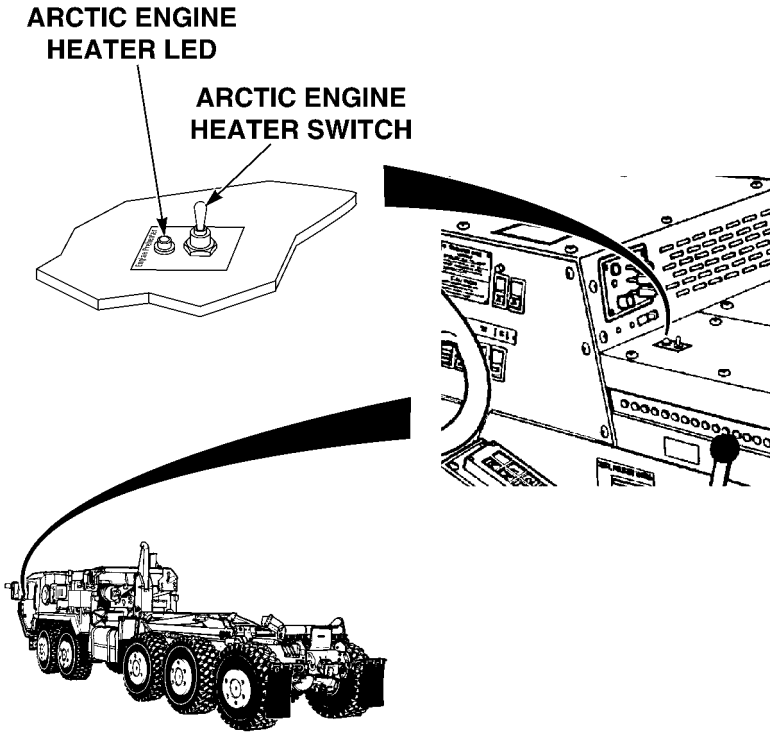
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
101.2	Monthly	Arctic Engine Heater (Model B)	(a) Place arctic engine ON/OFF switch in ON position. Steady illumination of the arctic engine heater indicator light indicates proper operation.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) CONT.

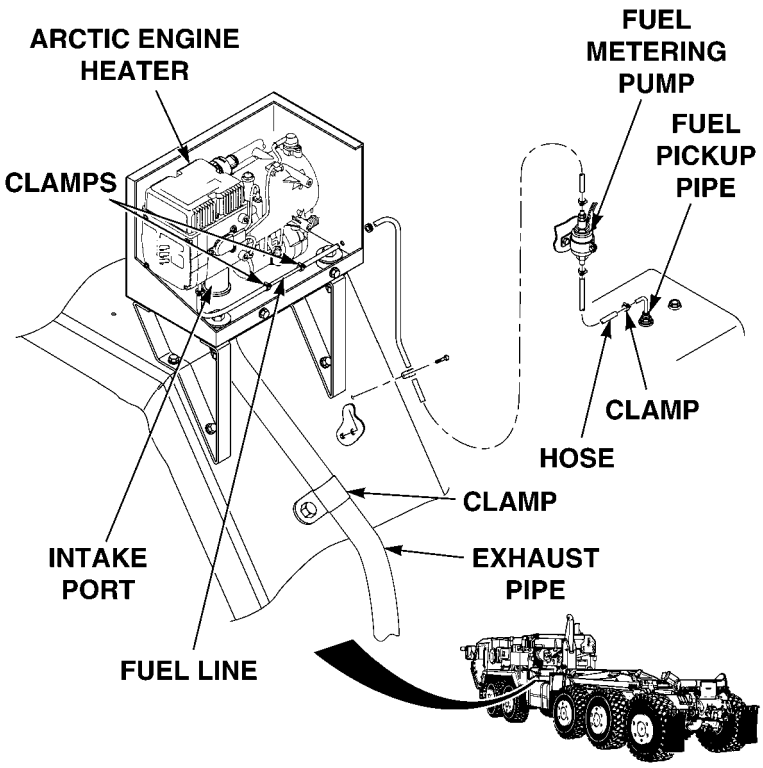
Item No.	Interval	Location Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
101.2	Monthly	Arctic Engine Heater (Model B) - (Cont).	(b) Visually check all fuel lines for leaks, cuts, loose clamps, and other obvious damage. (c) Visually check intake port and exhaust pipe for blockage.	Any Class III fuel leakage.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

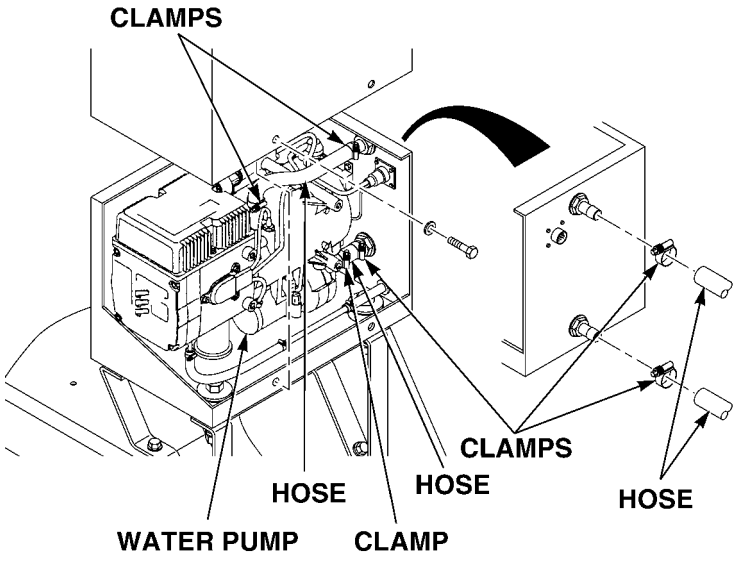
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
101.2	Monthly	Arctic Engine Heater (Model B) - (Cont).	(d) Check water pump for unusual noise.	
			(e) Check coolant hoses at arctic engine heater for leaks, cuts, loose clamps, and other obvious damage.	Any Class III coolant leakage.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) CONT.

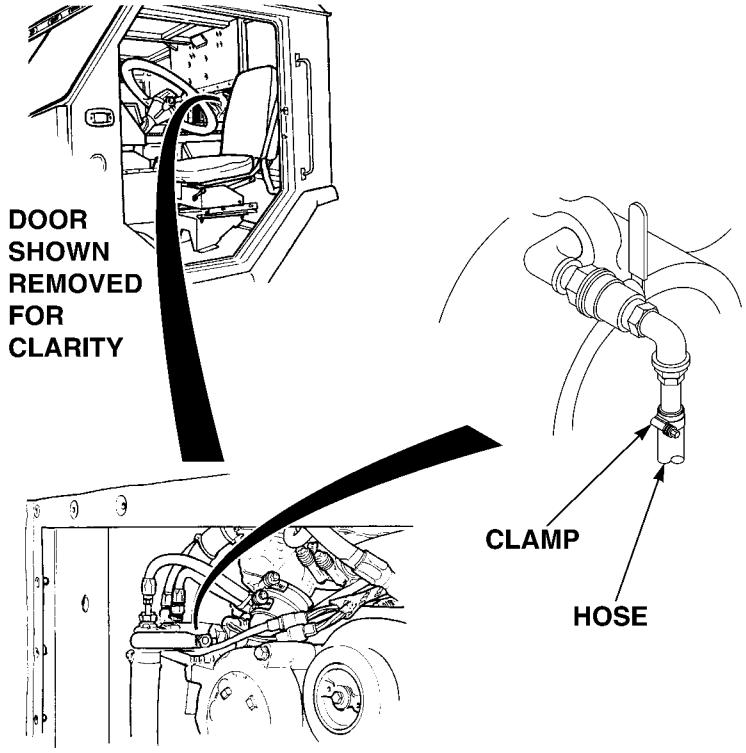
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
101.2	Monthly	Arctic Engine Heater (Model B) - (Cont).	(f) Check coolant hoses at water pump for leaks, cuts, loose clamps, and other obvious damage.	Any Class III coolant leakage.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly)

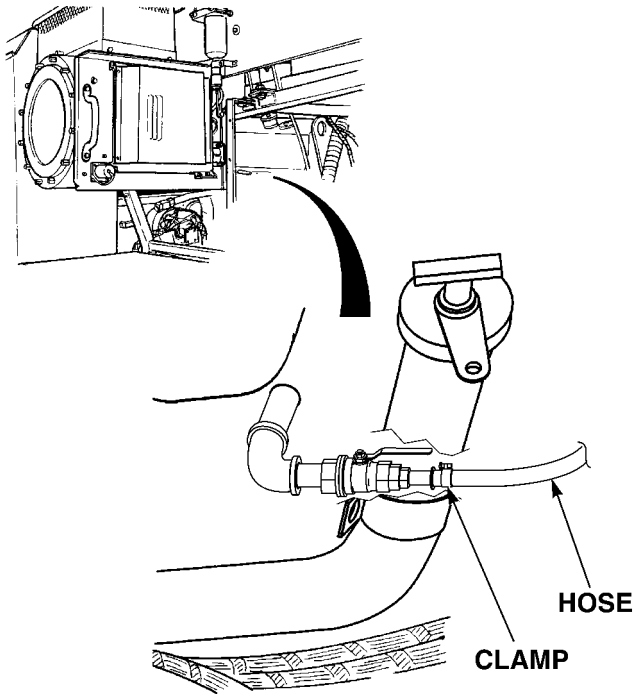
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
				
101.2	Monthly	Arctic Engine Heater (Model B) - (Cont).	(g) Check coolant hoses at engine left side for leaks, cuts, loose clamps, and other obvious damage. (h) Run arctic engine heater at least once a month during the year (for minimum of 15 minutes).	Any Class III coolant leakage.
102	Deleted			

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

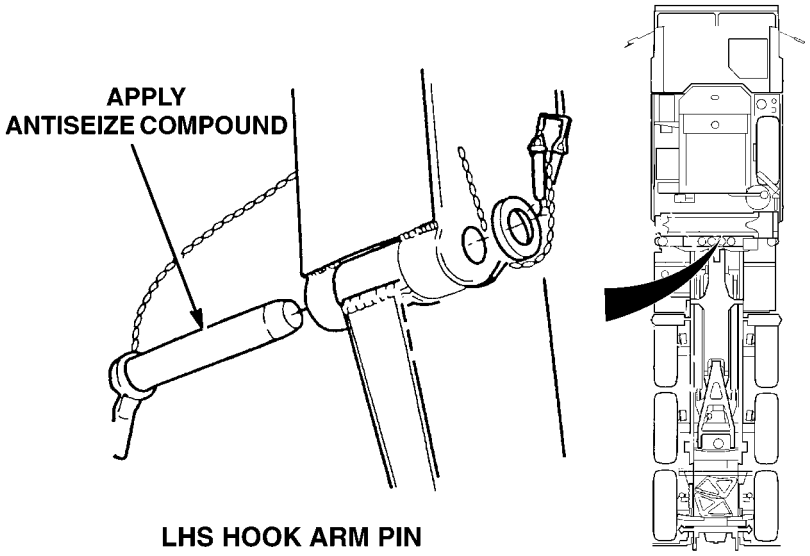
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 LHS HOOK ARM PIN	
			WARNING Lift hook weighs 150 lbs (68 kg). Attach suitable lifting device prior to removal or installation of LHS hook arm pin to prevent possible injury to personnel. **NOTE** • To allow access to the hook arm cylinder rear grease fittings and LHS hook arm pin, LHS should be fully extended. • Remove safety pin and washer to remove LHS hook arm pin. Lubricate LHS hook arm pin and reinstall with washer and safety pin.	
103	Semi-annual	Load Handling System (LHS)	Apply antiseize to LHS hook arm pin.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

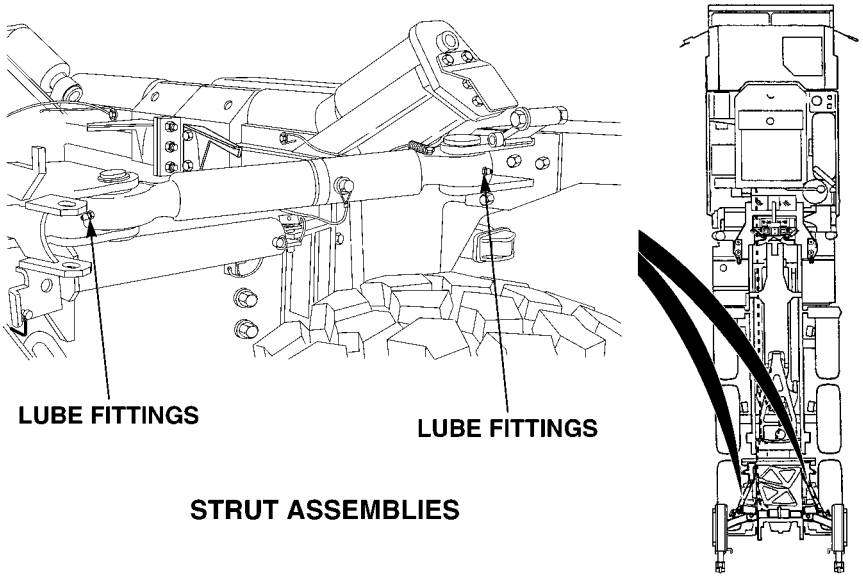
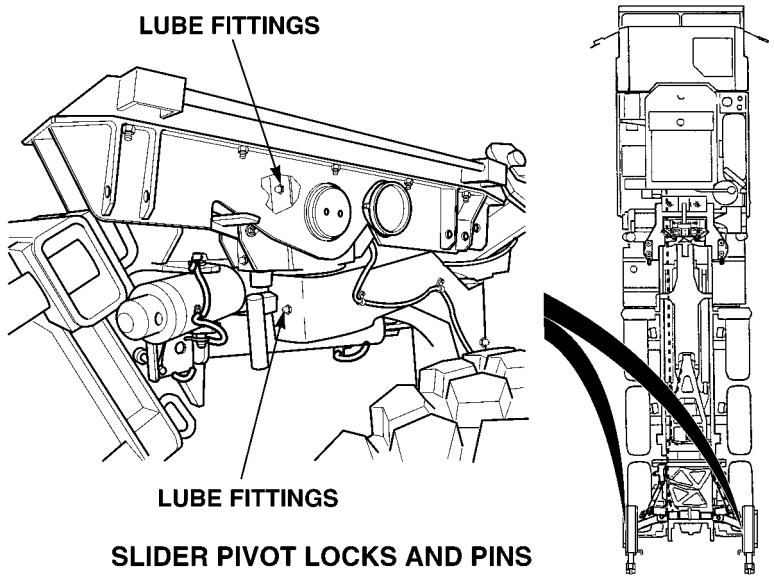
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 **STRUT ASSEMBLIES**	
			NOTE • Lubricate fittings with a manual grease gun. Do not use an air powered grease gun. • When using a grease gun, apply lubricant to the fitting until clean lubricant squeezes out of the part being lubricated. • If the part does not purge clean lubricant, notify Unit maintenance.	
104	Semi-annual	Container Handling Unit (CHU Kit)	(a) Lubricate CHU long and short strut assemblies (4 fittings) with GAA.	

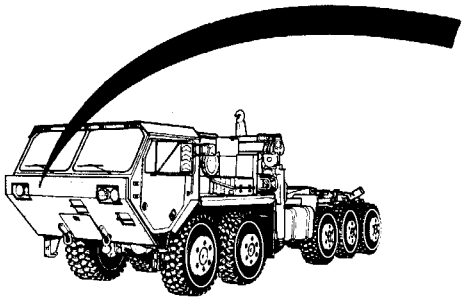
Table 2-5. Operator's Preventive Maintenance Checks and Services (Semi Annual)

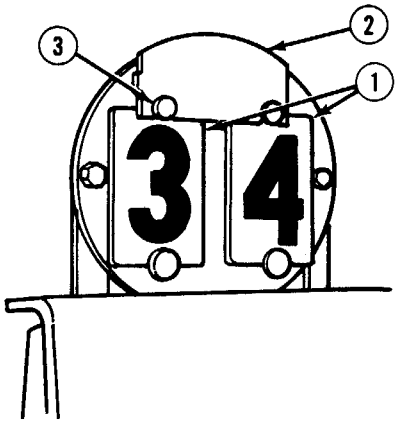
Item No.	Interval	Location: Item to Check/ Service	Procedure	Not Fully Mission Capable if:
			 SLIDER PIVOT LOCKS AND PINS	
104	Semi-annual	Container Handling Unit (CHU Kit) (Cont).	(b) Lubricate CHU slider pins (2 fittings) with GAA.	

Section III. OPERATION UNDER USUAL CONDITIONS

2-12. PREPARATION FOR OPERATION.

a. Change Truck Weight Indicator.





NOTE

- There are five number plates on each side.
- Refer to Table 1-4 for information as to the correct numbers to place in the indicator.

(1) Press in on number plates (1).

(2) Push lockplate (2) up and off of one lockpin (3).

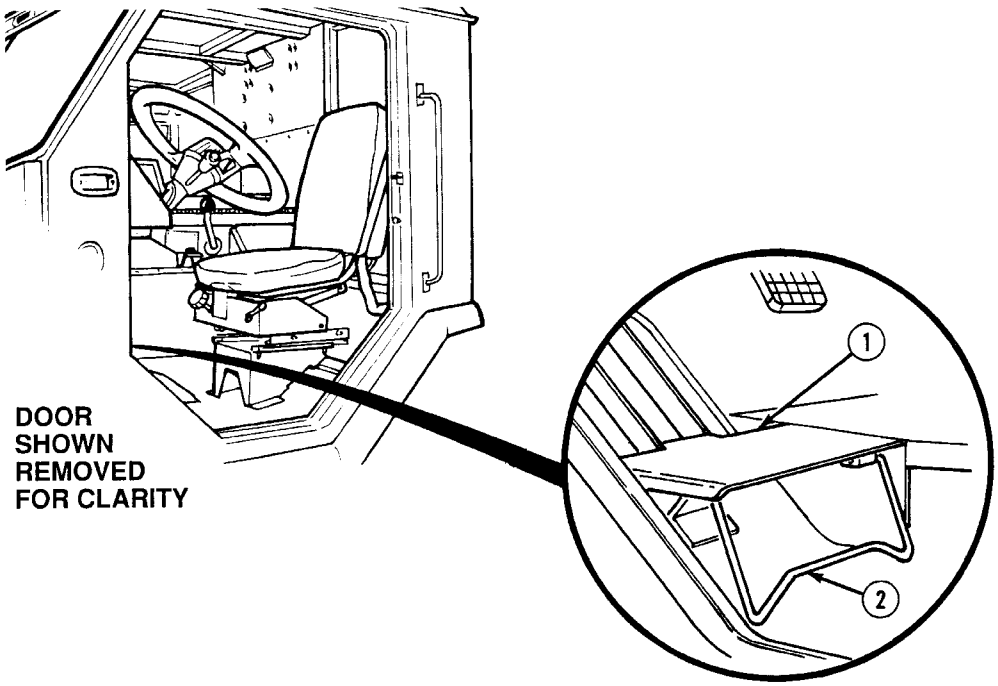
(3) Remove number plates (1).

(4) Select new numbers.

(5) Install number plates (1). Slide lockplate (2) on lockpin (3).

(6) Push down number plates (1). Slide lockplate (2) on lockpin (3).

2-12. PREPARATION FOR OPERATION (CONT).



b. Install Foot Rest.

(1) Lift foot rest (1) up.

(2) Pull foot rest leg (2) outward until it contacts the bottom of foot rest.

(3) Lower foot rest (1) to floor.

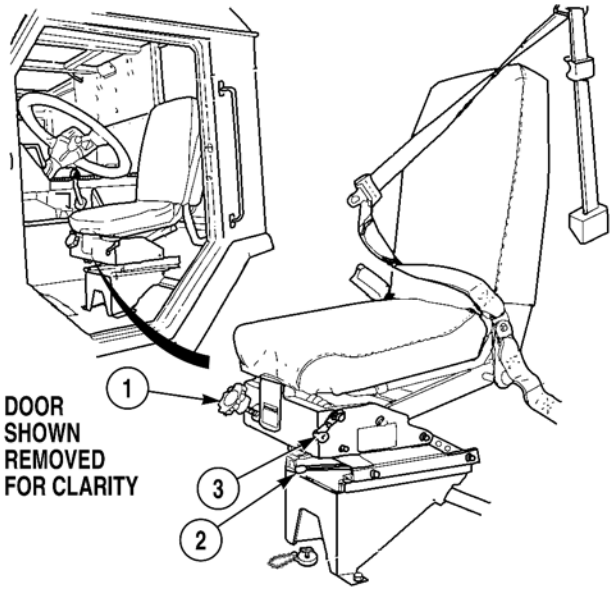
c. Stow Foot Rest.

(1) Lift foot rest (1) up.

(2) Push foot rest leg (2) under foot rest (1) until it contacts bottom of the foot rest.

(3) Lower foot rest (1) to floor.

d. Adjust Seat.



WARNING

Ensure all items stored in cargo net are below top of cargo net or injury to personnel may result.

NOTE

- Vehicle may be equipped with either three-point seat belts (shown below), or newer model air-ride seats with four-point seat belts.
- Perform Steps (1) through (6) for vehicles equipped with three-point seat belts.
- Perform Steps (7) through (13) for vehicles equipped with air-ride seats with four-point seat belts.
- Sit in seat to make the following adjustments.

(1) Turn knob (1) to control cushion firmness.

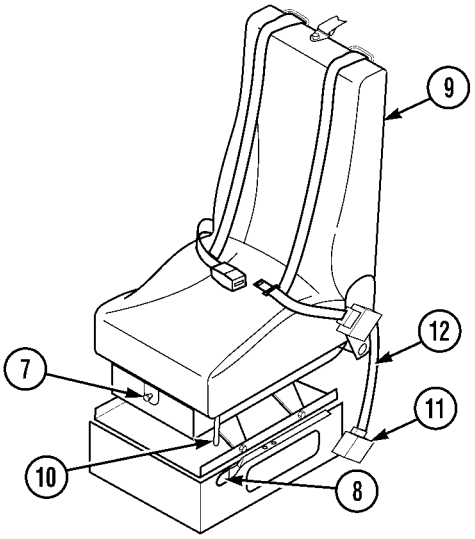
(2) Push lever (2) toward drivers cab door to release seat lock. Move seat forward or backward.

(3) Release lever (2) to lock seat in place.

(4) Pull lever (3) upward and lift self off seat to raise seat.

(5) Pull lever (3) upward and push down on the seat to lower seat.

(6) Release lever (3) to lock seat in place.



WARNING

When adjusting seat ride firmness, keep fingers out from under seat. Failure to comply may result in fingers being pinched.

NOTE

- To adjust seat, sit in seat and make adjustments.
- If vehicle is bounced too hard, seat tether may lock seat in down position. Perform Steps (14) through (17) to release seat tether.

(7) Push in knob (7) to decrease seat ride firmness.

(8) Pull out knob (7) to increase seat ride firmness.

(9) Move lever (8) away from seat (9) and slide seat (9) forward or backwards.

(10) Move lever (8) towards seat (9) to lock seat (9) in place.

(11) Pull up lever (10) and lift self off seat (9) to raise seat (9).

(12) Pull up lever (10) and push down on seat (9) to lower seat (9).

(13) Release lever (10) to lock seat (9) in place.

(14) Push in knob (7) to decrease seat ride firmness.

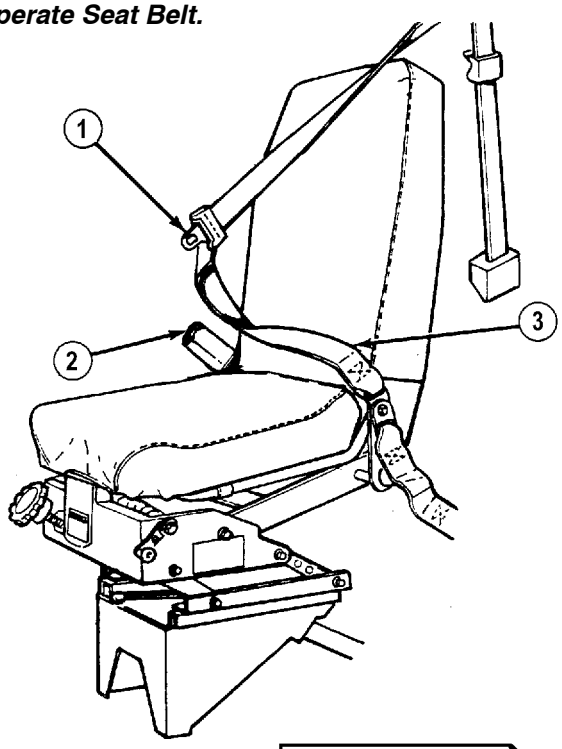
(15) Move lever (8) away from seat (9) and slide seat (9) backwards to relieve tension on retractor (11).

(16) Feed some seat tether (12) into retractor (11) until retractor (11) releases.

(17) Pull out knob (7) to increase seat ride firmness and adjust seat as required.

2-12. PREPARATION FOR OPERATION (CONT).

e. Operate Seat Belt.



WARNING

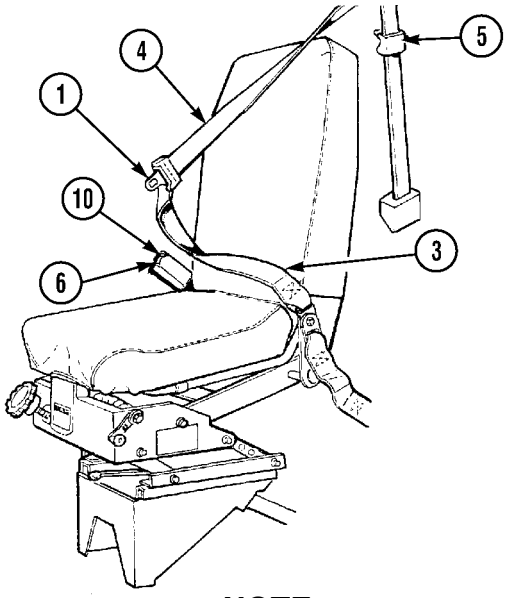
Always use seat belts when operating truck. Failure to use seat belt can result in serious injury in case of accident.

NOTE

- Vehicle may be equipped with either three-point seat belts (shown above), or newer model air-ride seats with four-point seat belts.
- Perform Steps (1) through (5) for vehicles equipped with three-point seat belts.
- Perform Steps (6) and (7) for vehicles equipped with air-ride seats with four-point seat belts.
- The seat belt/shoulder belt is two belts combined together. The belt below the buckle is the seat belt, the belt above the buckle is the shoulder belt.

(1) Push seat belt/shoulder belt clip (1) into buckle (2) until a click is heard.

(2) Place seat belt (3) as low on hips as possible.



NOTE

Seat belt does not have self-adjusting lock. Take slack out of seat belt by pulling on shoulder belt end. Adjust shoulder belt until snug against chest (no more than one inch away).

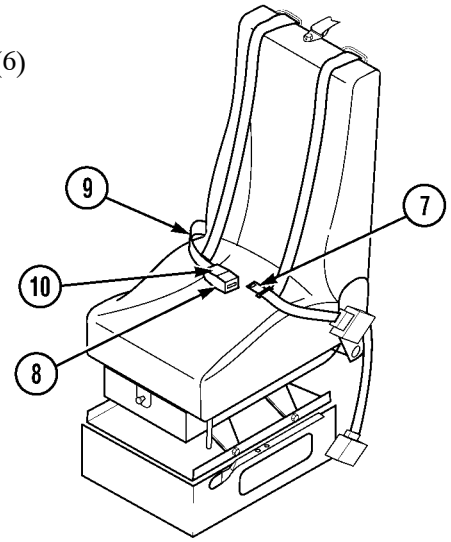
(3) Pull shoulder belt (4) until the seat belt (3) fits snug at drivers hips.

(4) Adjust shoulder belt (4) length by releasing latch (5) and adjusting shoulder belt no more than one inch away from chest. Engage latch to hold adjustment.

(5) To release the seat belt/shoulder belt clip (1), push in release button (6) and pull clip from buckle (2).

(6) Push seat belt flat metal end (7) into buckle (8) until click is heard.

(7) To release seat belt (9), push in button (10) on buckle (8).



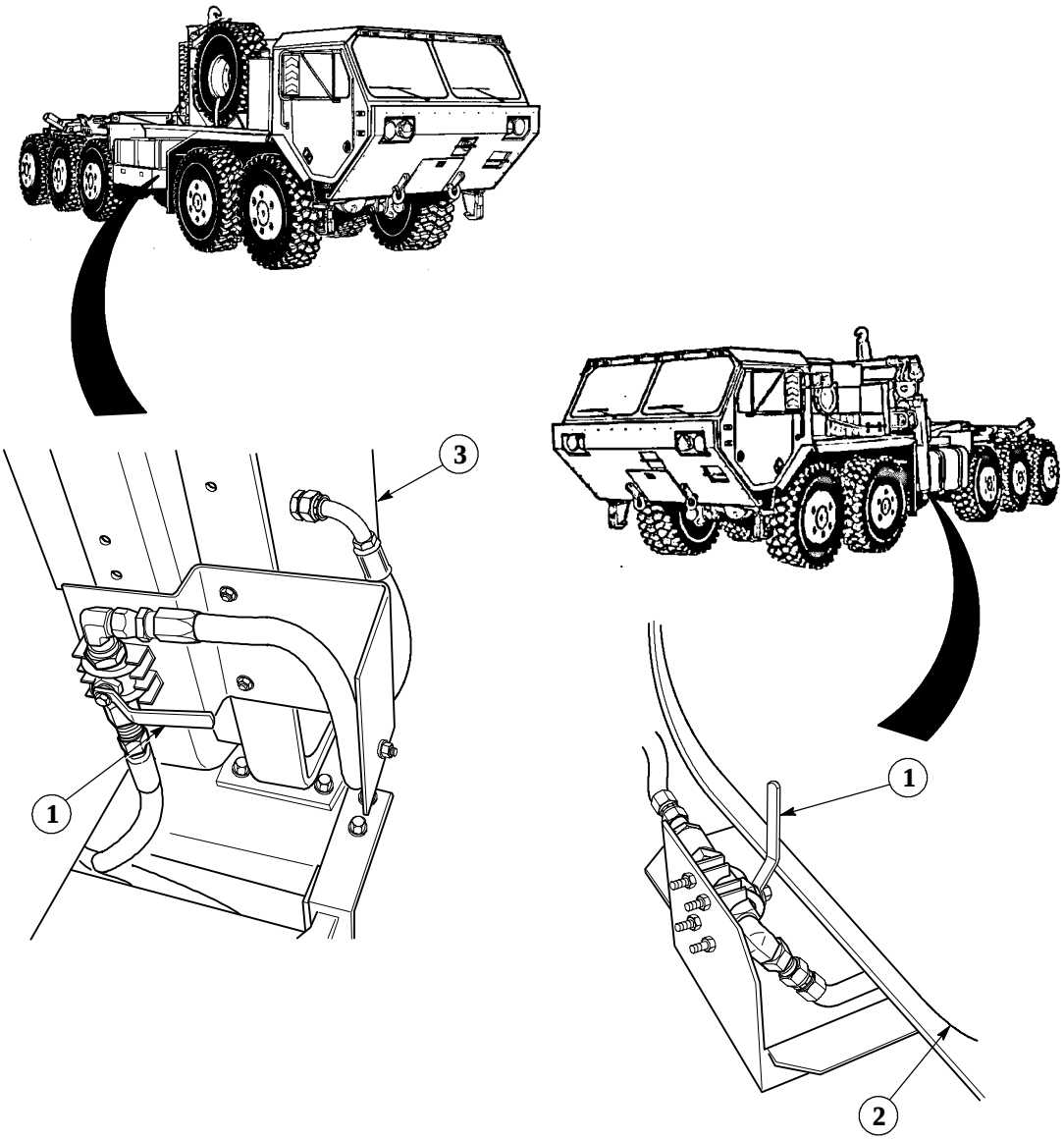
2-13. FILLING MAIN FUEL TANK WHEN EQUIPPED WITH AUXILIARY FUEL TANK.

WARNING

Fuel is very flammable and can explode easily. To avoid serious injury or death:

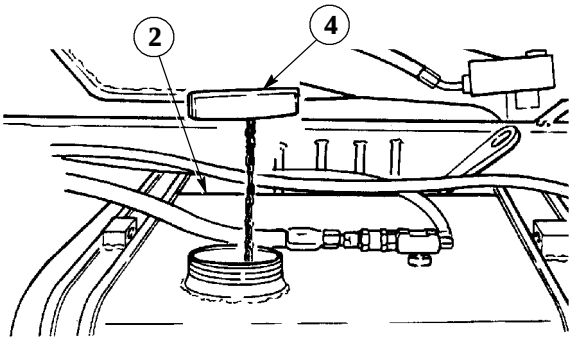
- Keep fuel away from open flame or any spark (ignition source).
- Keep at least a B-C fire extinguisher within easy reach when working with fuel or on a fuel system.
- Do not work on fuel system when engine is hot; fuel can be ignited by a hot engine.
- Clean fuel tank to purge any flammable liquid or vapors before welding, grinding or using any heat producing device near the fuel tank.
- When refueling, stop truck, shut down engine, and apply parking brake. Ensure truck is properly grounded. Ensure no open flame is near area. Never smoke. Never add fuel with engine running. Do not have driver seated when adding fuel. After fuel is added, securely close reservoir cap; a loose cap can cause a fuel leak or be a fire hazard. Before starting truck, check that no fuel is spilled on or around truck.

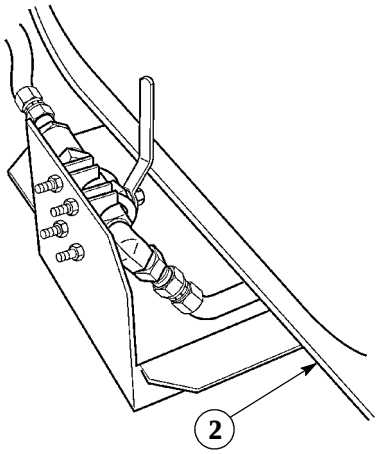
a. Shut off engine (Para 2-23).



b. Close fuel shutoff valves (1) on main fuel tank (2) and auxiliary fuel tank (3).

2-13. FILLING MAIN FUEL TANK WHEN EQUIPPED WITH AUXILIARY FUEL TANK (CONT).





NOTE

Steps are identical for main fuel tank and auxiliary fuel tank. Main fuel tank is illustrated.

c. Clean away debris on/near fuel filler cap (4) of main fuel tank (2).

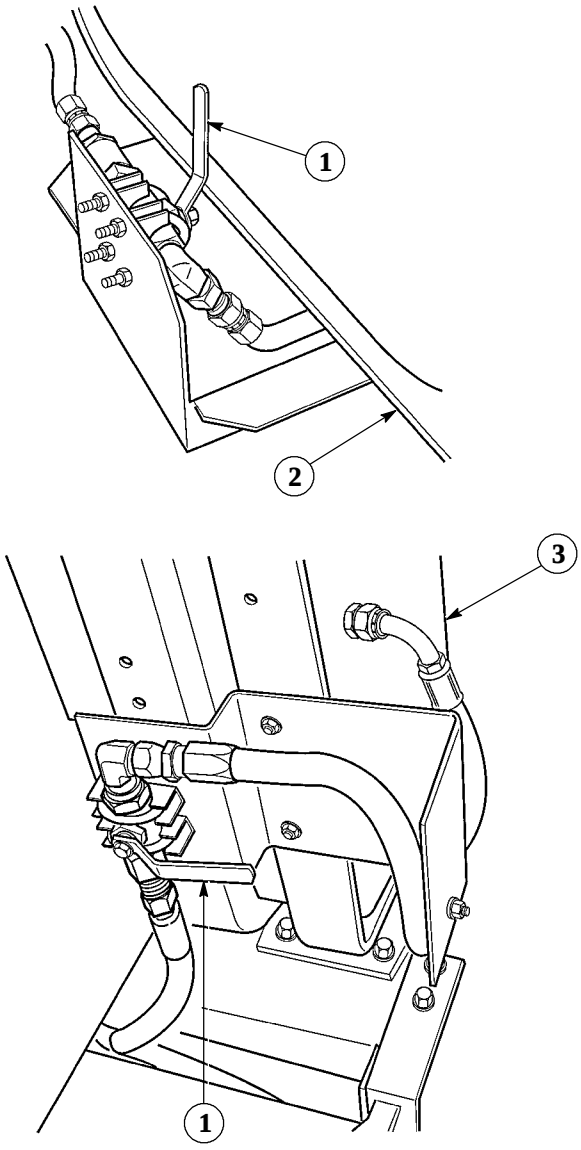
d. Remove fuel filler cap (4) from main fuel tank (2) slowly.

e. Properly ground truck.

f. Fill main fuel tank (2).

g. Remove ground from truck.

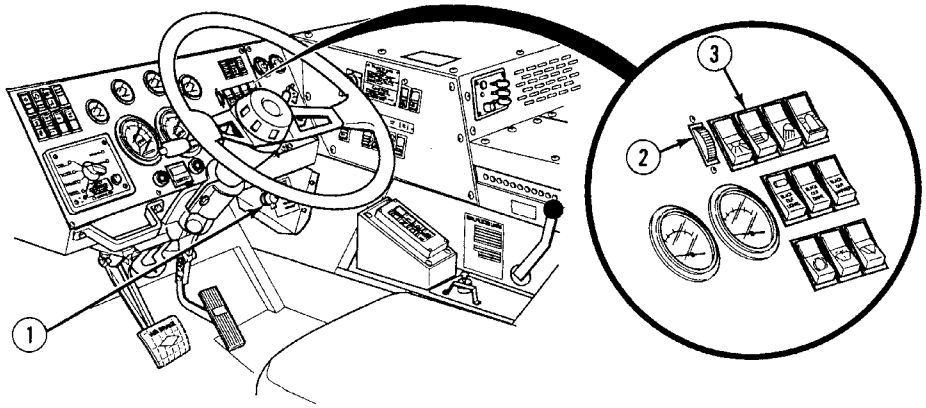
h. Replace fuel filler cap (4) on main fuel tank (2).



i. Repeat Steps ***c.*** through ***h.*** for filling auxiliary fuel tank (3).

j. Open fuel shutoff valves (1) on main fuel tank (2) and auxiliary fuel tank (3).

2-14. OPERATING LIGHTS.

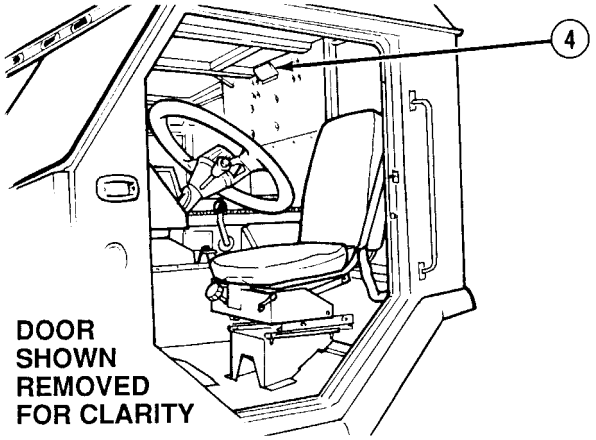


a. Turn the ignition switch (1) to ON position.

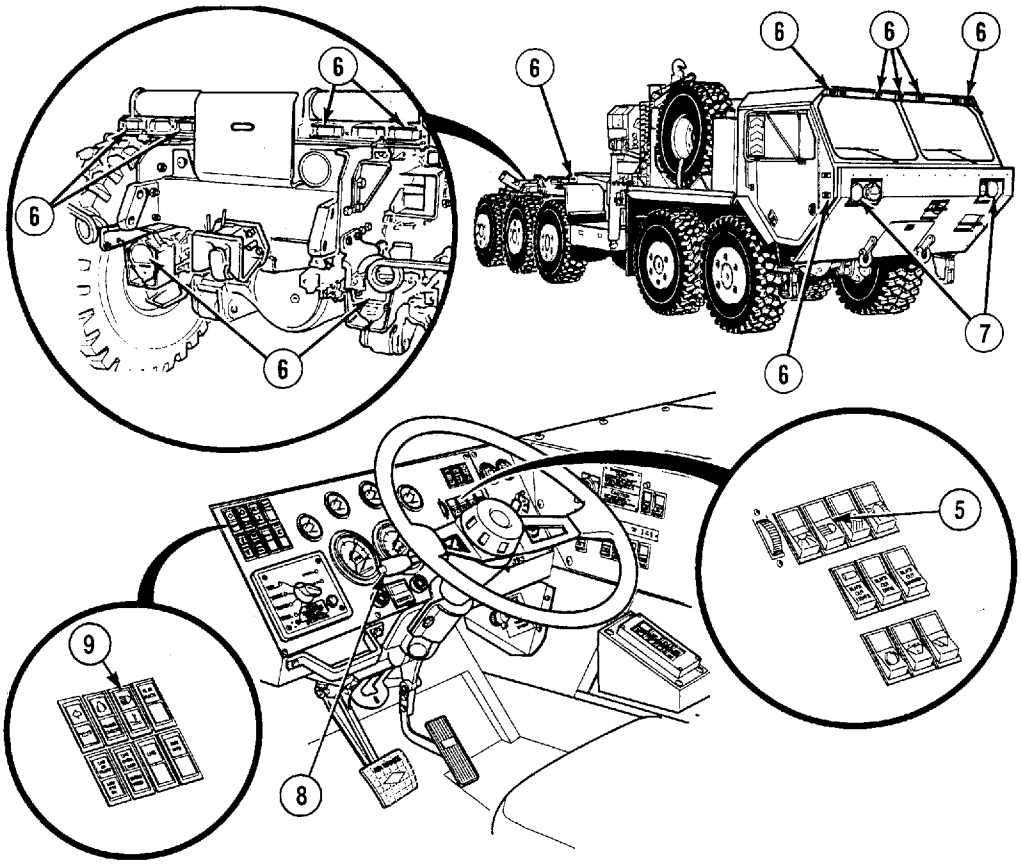
NOTE

- The blackout lights switch must be in OFF position for internal and external lights to operate.
- Use the rocker switches on the instrument panel to check the operation of the lights in Steps ***b.*** through ***k.***
- If equipped, battery disconnect switch must be IN for power to be supplied to the electrical system.

b. Turn rheostat switch (2) up or down to adjust brightness of instrument panel lights.



c. Push the dome light switch (3) down to turn dome light (4) ON, and up to turn dome light OFF.



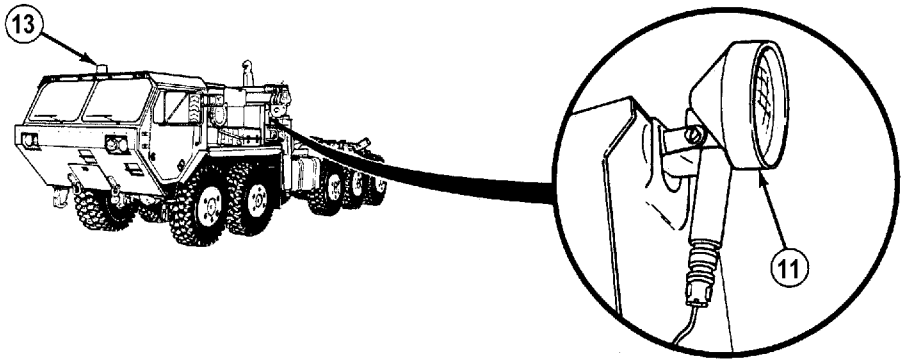
NOTE

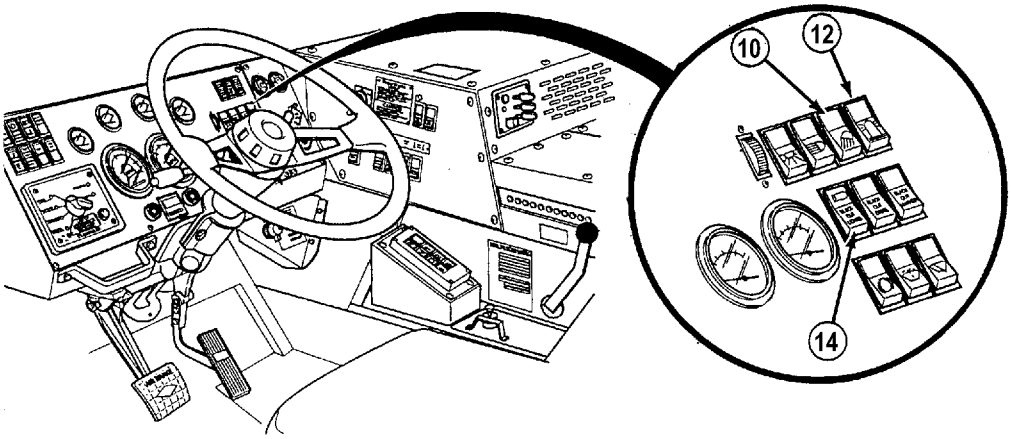
The headlight/clearance light switch has three positions: OFF is the top part of rocker switch pushed in, clearance lights is the middle position and headlights with clearance lights is the bottom part of rocker switch pushed in.

d. Push the headlight/clearance lights switch (5) to middle position to turn clearance lights (6) on, and up to turn clearance lights off.

e. Push the headlight/clearance lights switch (5) all the way down to turn headlights/clearance lights on. Push switch all the way up to turn headlights/clearance lights off. With headlights (7) on, press dimmer switch (8) (located on end of signal lever) to select high or low beam. High beam indicator (9), will light when high beam is on.

2-14. OPERATING LIGHTS (CONT).





NOTE

Work light switch should be in the ON position.

f. Push the work light switch (10) down to turn work lights (11) on, up to turn work light off.

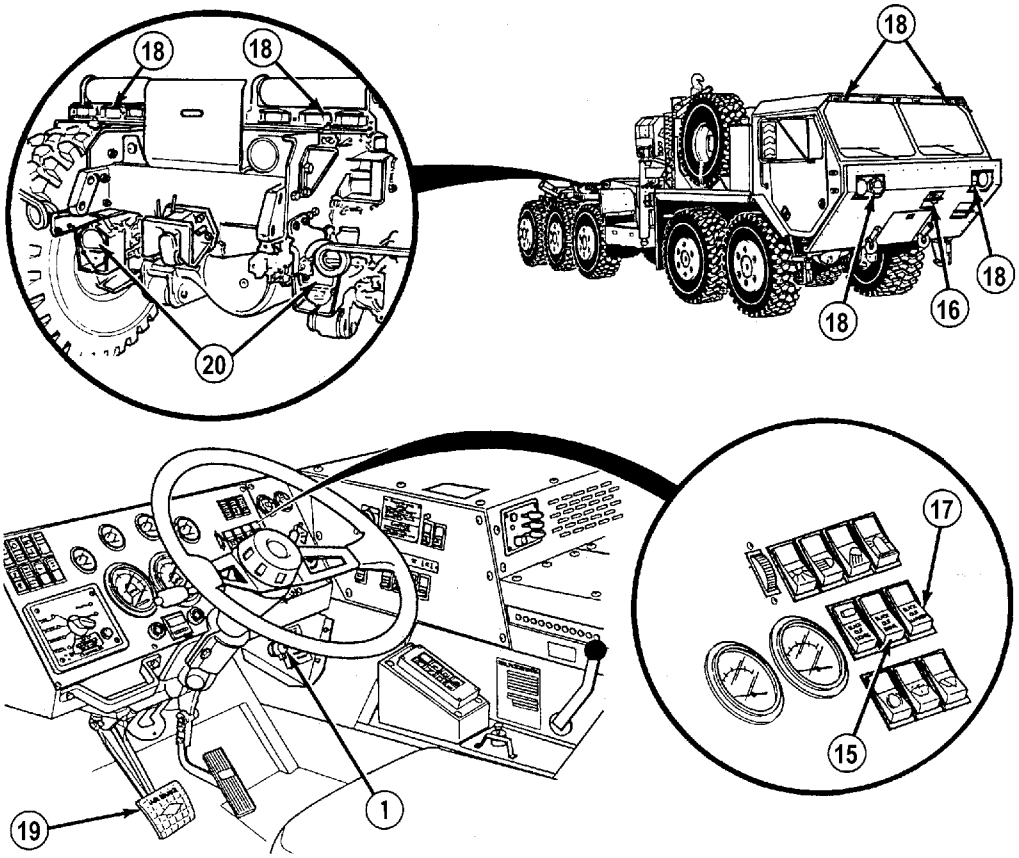
g. Push the beacon light switch (12) down to turn beacon light (13) (if equipped) on, up to turn beacon light off.

NOTE

Backup alarm can be locked out by having black out selector switch in on position for daylight tactical situations.

h. Push switch lock on upper part of blackout selector switch (14) down while pushing bottom part of blackout selector switch in.

i. Push the blackout selector switch (14) down to put lighting system in blackout mode, up to turn off.



j. Push the blackout drive lights switch (15) down to turn blackout drive lights (16) on, up to turn blackout drive lights off.

NOTE

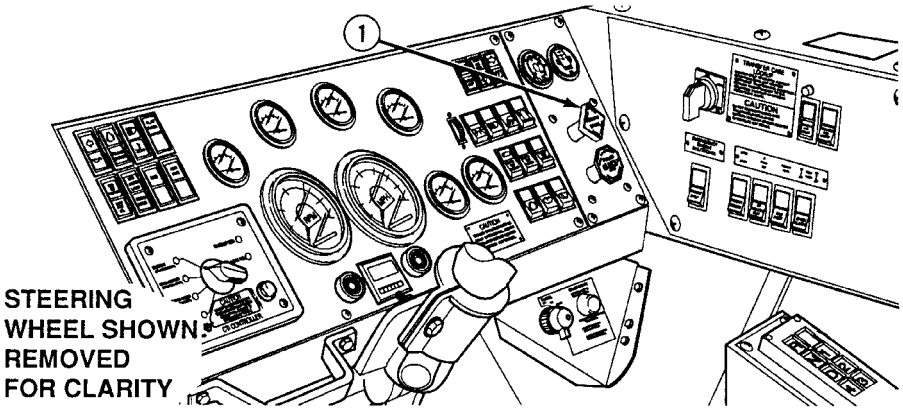
Truck may or may not be equipped with upper blackout marker lights.

k. Push the blackout marker lights switch (17) down to turn blackout marker lights (18) on, up to turn blackout marker lights off.

l. Press the service brake pedal (19) and check operation of stoplights (20).

m. Turn the ignition switch (1) to OFF position.

2-15. NORMAL STARTING.



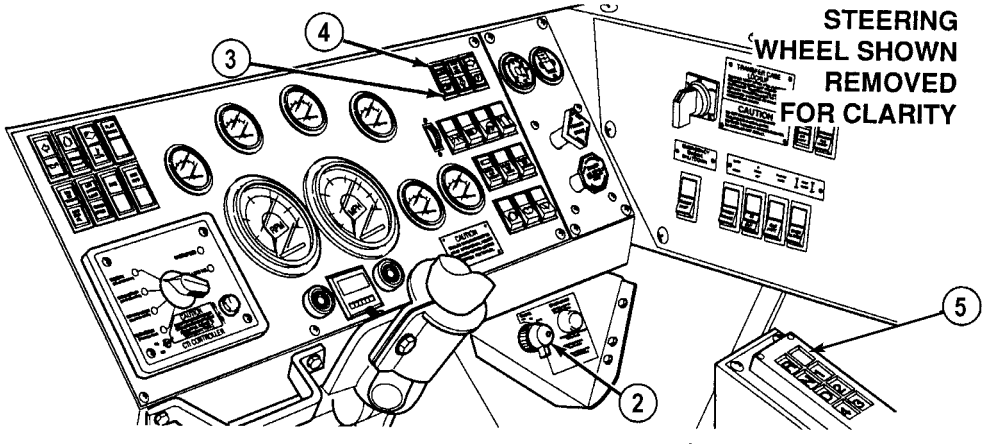
CAUTION

Hydraulic selector switch must be in OFF position before driving or hydraulic system could overheat causing damage to equipment.

NOTE

- For cold weather starting, refer to Para 2-50 Operate Truck in Cold Environment +45 degrees F to -25 degrees F (-7 degrees C to -32 degrees C) or Para 2-51 Operate Truck in Extreme Cold Environment Below -26 degrees F (-32 degrees C).
- If equipped, battery disconnect switch must be IN for power to be supplied to electrical system.

a. Pull out the PARKING BRAKE control (1).

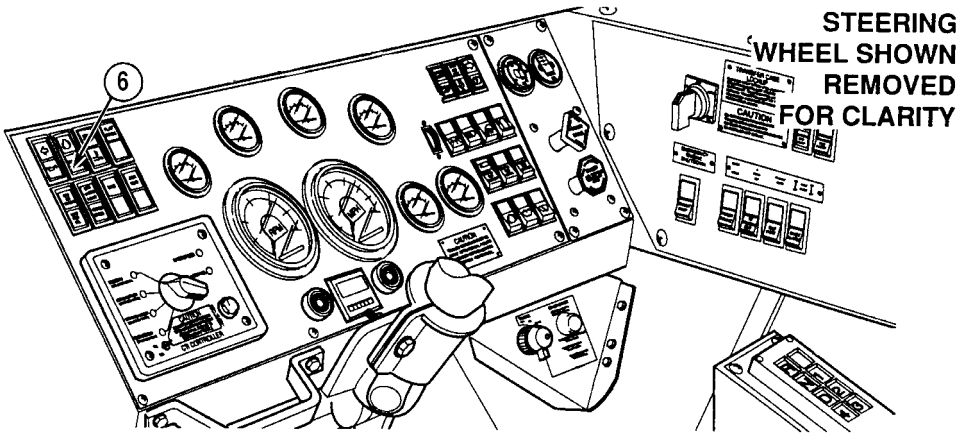


CAUTION

- CHECK GAGES indicator will light (Orange) to warn driver when a potential engine failure (e.g., low oil pressure, low coolant, coolant overheating, etc.) has occurred while operating vehicle. Notify Unit Maintenance.
- CHECK ENGINE indicator will light (Orange) to warn driver of failures that will not critically damage engine. Truck should be serviced as soon as possible.
- CHECK GAGES and CHECK ENGINE indicators will light and warning alarm will sound for approximately five seconds when ENGINE switch is positioned to ON. Do not attempt to start engine if CHECK GAGES or CHECK ENGINE indicators remain lit after approximately five seconds.
- DO NOT SHIFT indicator will flash red to warn driver of a potentially serious problem with the transmission, and that shift selection has been limited.
- DO NOT SHIFT indicator will flash for approximately five seconds when ENGINE switch is positioned to ON, then go off.

b. Turn the ENGINE switch (2) to ON. Observe CHECK GAGES, CHECK ENGINE and DO NOT SHIFT indicators (3), (4) and (5). Refer to Troubleshooting Symptoms Para 3-3 if CHECK GAGES, CHECK ENGINE or DO NOT SHIFT indicators remain lit after approximately five seconds. Notify Unit Maintenance if any indicators fail to light up.

2-15. NORMAL STARTING (CONT).

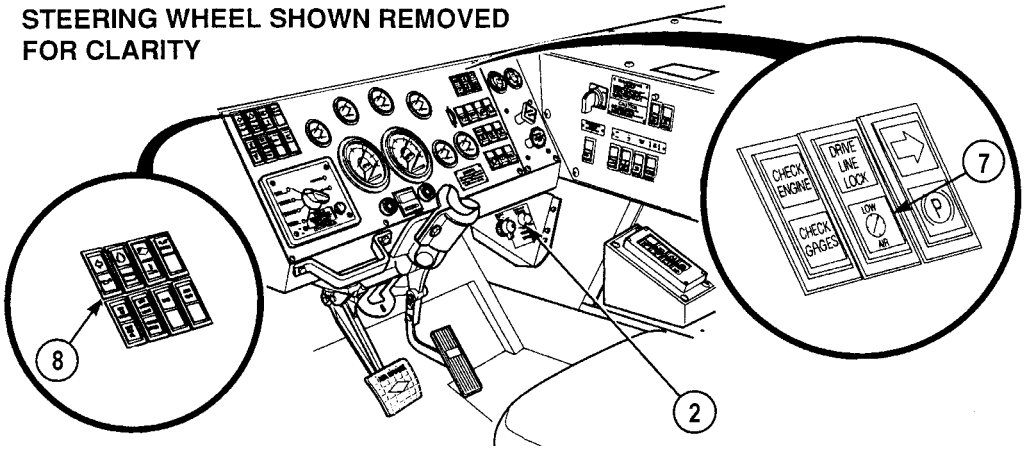


CAUTION

TRANS CHECK indicator will light (Orange) as a bulb and system check until engine has started.

c. Check that TRANS CHECK indicator (6) remains on. Notify Unit Maintenance if indicator is not on.

STEERING WHEEL SHOWN REMOVED
FOR CLARITY



WARNING

Ensure that all personnel are clear of truck before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start engine. Failure to do so could result in serious injury or death to personnel.

CAUTION

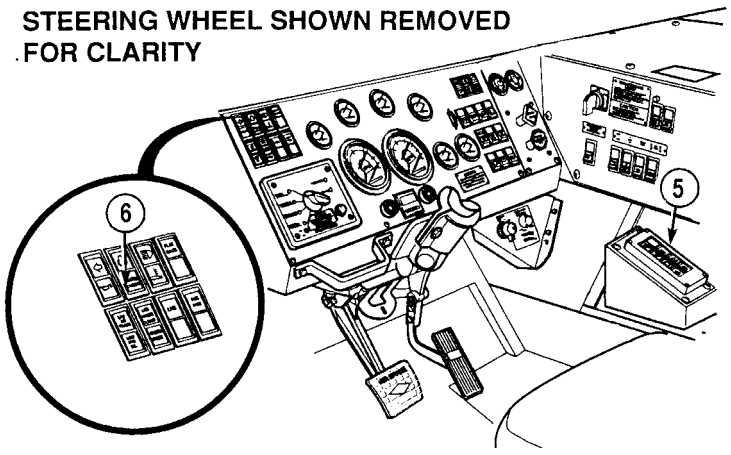
- If engine fails to start after five (15 second) start attempts, refer to Troubleshooting Symptoms Para 3-3 or equipment damage may occur.
- Do not turn ENGINE switch to START position while engine is rotating, or damage to equipment may result.

NOTE

- Check engine lamp will illuminate for 10 to 15 seconds after start-up.
- If engine fails to start, the ENGINE switch must be turned to OFF position, prior to the next start attempt. This will disengage an Engine Restart Interlock which prevents starter engagement from the ON position.

d. Turn the ENGINE switch (2) to START for about 15 seconds or until engine starts. When engine starts, release switch. ENGINE switch will spring back to ON position. If engine fails to start, wait 15 seconds before next start attempt to allow starter to cool. Air pressure indicator (7) and oil pressure lamp (8) may light and buzzer may sound briefly.

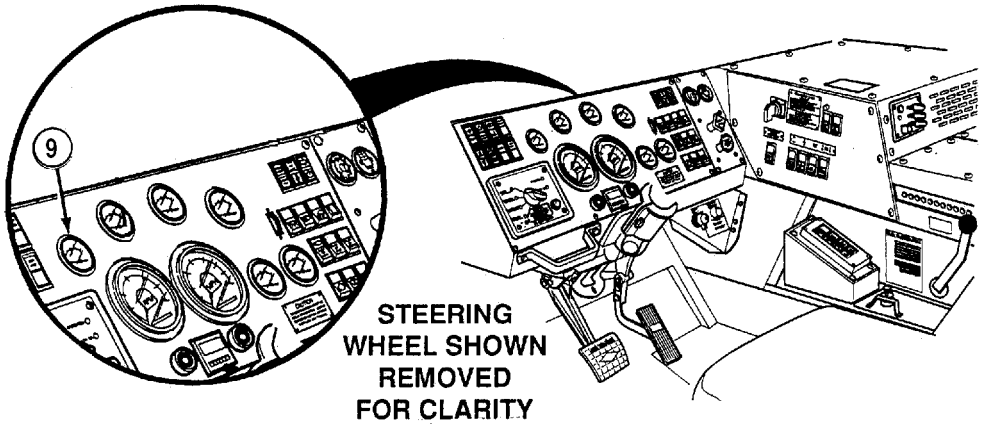
2-15. NORMAL STARTING (CONT).



CAUTION

TRANS CHECK indicator will go off at engine start-up. If TRANS CHECK indicator remains on, transmission has a problem that will not critically damage the transmission.

e. Observe TRANS CHECK (6) and DO NOT SHIFT (5) indicators. Refer to Troubleshooting Symptoms Para 3-3 if DO NOT SHIFT or TRANS CHECK indicators remain lit after engine is running.



CAUTION

If OIL PRESS gage does not show engine oil pressure within 10 to 15 seconds after starting engine, shut down engine immediately and refer to Troubleshooting Symptoms Para 3-3. Lack of lubrication may damage engine.

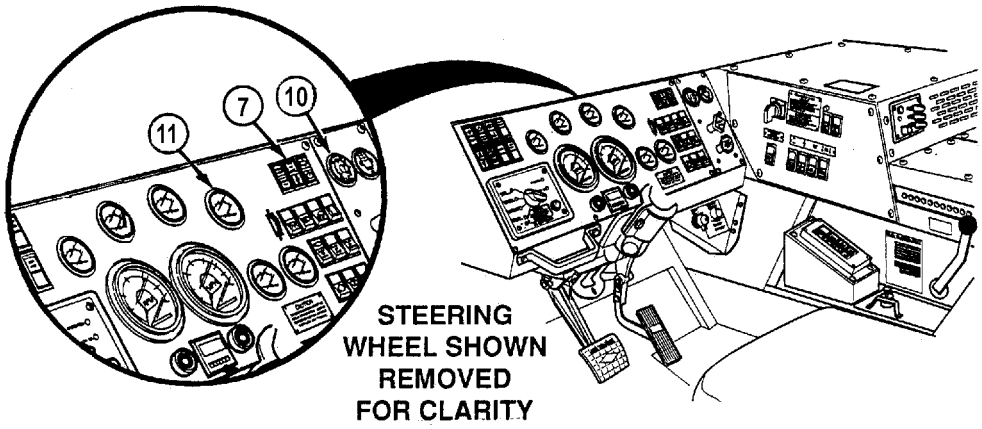
f. Check that OIL PRESS gage (9) reads 5 to 10 psi (34 to 69 kPa) during idle and 40 to 60 psi (276 to 414 kPa) during normal operation.

CAUTION

Do not operate engine above 1000 rpm during warm-up until OIL PRESS gage indicates 25 to 30 psi (172 to 207 kPa) at 800 to 1000 rpm. OIL PRESS gage should indicate 50 to 70 psi (345 to 483 kPa) when engine operates at 1800 to 2100 rpm. Lack of lubrication may damage engine.

g. Run engine at 800 to 1000 rpm for about three minutes.

2-15. NORMAL STARTING (CONT).

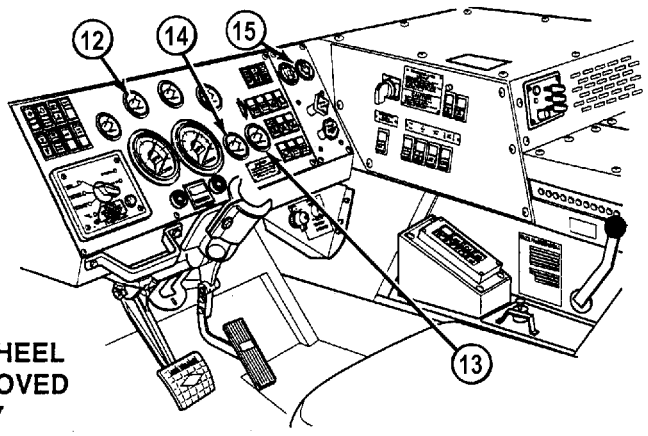


NOTE

If red and green needles on the AIR PRESS gage do not read 60 to 125 psi (414 to 862 kPa) after warm-up, shut off engine and notify Unit Maintenance.

h. Check that the AIR PRESS gage (10) reads 60 to 125 psi (414 to 862 kPa). Air pressure indicator (7) will light and buzzer will sound until air pressure is greater than 60 psi (414 kPa).

i. Check that FUEL gage (11) shows enough fuel to complete mission.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

WATER TEMP gage may not show reading at engine idle.

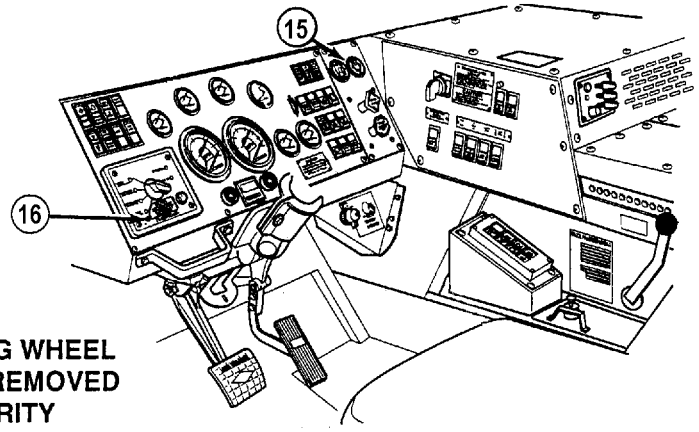
j. Check that the WATER TEMP gage (12) does not read over 210 degrees F (99 degrees C).

k. Check that 24-volt BATTERY gage (13) reads between 26 to 28 volts.

l. Check that 12-volt BATTERY gage (14) reads between 13 to 14 volts.

m. Check that the air filter restriction indicator (15) reads less than 17 inches (4.2 kPa).

2-15. NORMAL STARTING (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

Truck may be operated until air filter restriction indicator reads up to a maximum of 20 inches (5.0 kPa) with a loss of performance and fuel economy.

n. If the air filter restriction indicator (15) reads 17 inches (4.2 kPa) or more, notify Unit Maintenance to change air filter element.

WARNING

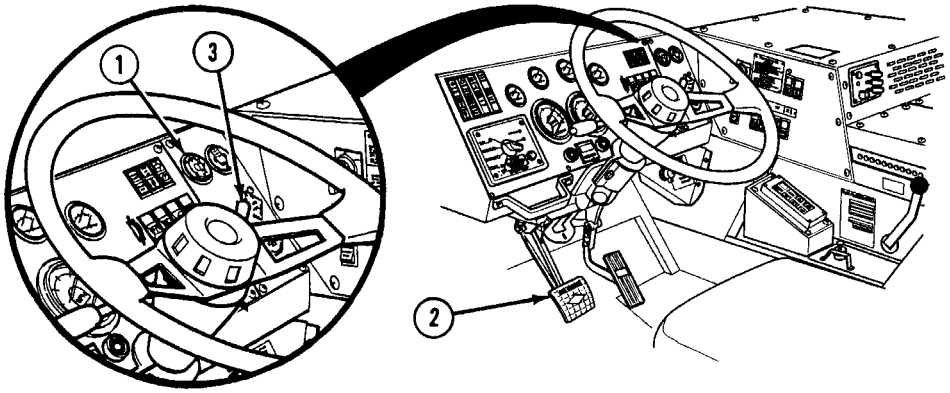
CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressures may not match driving speeds. Failure to follow these instructions may result in unsafe driving conditions or tire failure causing serious injury or death to personnel.

NOTE

CTIS lights will briefly flash and then extinguish when the CTIS is turned on. A steady green light will remain at the position the CTIS is set.

o. Check that CTIS ON/OFF switch (16) is set to ON.

2-16. BRAKES.



a. Operate Service Brakes.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

(1) Ensure the AIR PRESS gage (1) reads at least 100 psi (690 kPa).

(2) Push down and hold the service brake pedal (2) as needed to slow or stop truck.

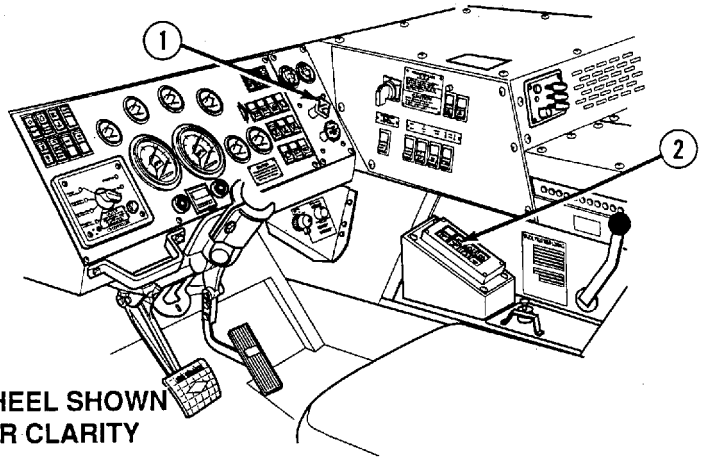
b. Operate Trailer Handbrake.

NOTE

When service brake pedal is pressed, both truck and trailer brakes will be applied.

Pull down trailer handbrake control (3) during trailer connect/disconnect operations, if required, to apply trailer brakes only. Release trailer handbrake control to release trailer brakes.

2-17. OPERATING TRANSMISSION AND TRANSFER CASE.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

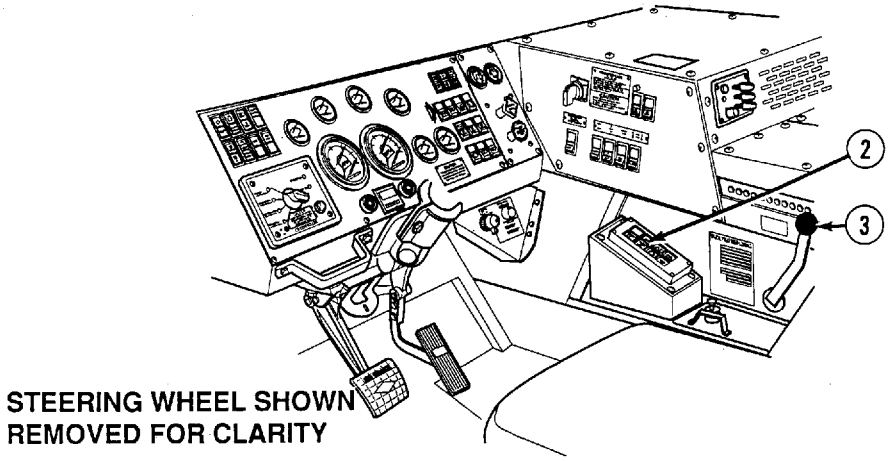
a. Start engine (Para 2-15).

b. Ensure the PARKING BRAKE control (1) is pushed in.

c. Ensure the transmission range selector (2) is set to Neutral (N).

CAUTION

- Do not force TRANSFER CASE shift lever. Lever may be difficult to shift if there is drive line windup. Using excessive force on shift lever may cause damage to shift linkage or change linkage adjustment.
- Do not move TRANSFER CASE shift lever when truck is moving, or when transmission is in gear. Severe damage to drive line may result.



NOTE

- Transfer case has High, Neutral and Low ranges. The operator must ensure the transfer case is in the proper range before proceeding.
- If TRANSFER CASE shift lever is hard to move, push in button and set transmission range selector to Drive (D) then back to Neutral (N). If transfer case will not shift, select Reverse (R) then Neutral (N) and try to shift the TRANSFER CASE lever again. If transfer case will still not shift, select Drive (D) then back to Neutral (N).

d. Select transfer case range:

NOTE

Refer to Table 1-28 for additional information.

(1) Set TRANSFER CASE shift lever (3) to H (HI) for highway driving (CTIS set to HIGHWAY) and secondary roads (CTIS set to cross-country).

(2) Set TRANSFER CASE shift lever (3) to L (LO) for adverse off-road driving and steep grades (CTIS set to MUD, SAND and SNOW or EMERGENCY).

e. Push in buttons to set the transmission range selector (2) to desired position.

2-17. OPERATING TRANSMISSION AND TRANSFER CASE (CONT).

(1) Use Reverse (R) to move truck backwards.

(2) Use Neutral (N) to:

(a) Start engine

(b) Park truck

(c) Shift transfer case

(d) Operate the LHS

(e) Operate auxiliary equipment.

(3) Use Drive (D) to:

(a) Drive in normal conditions

(b) Move forward from a stop

(c) Drive in off-road conditions.

(4) Use 4, 3, or 2 (Fourth, Third or Second range) to:

(a) Drive in off-road conditions

(b) Drive in city traffic

(c) Drive in other conditions as needed. Refer to engine brake operation.

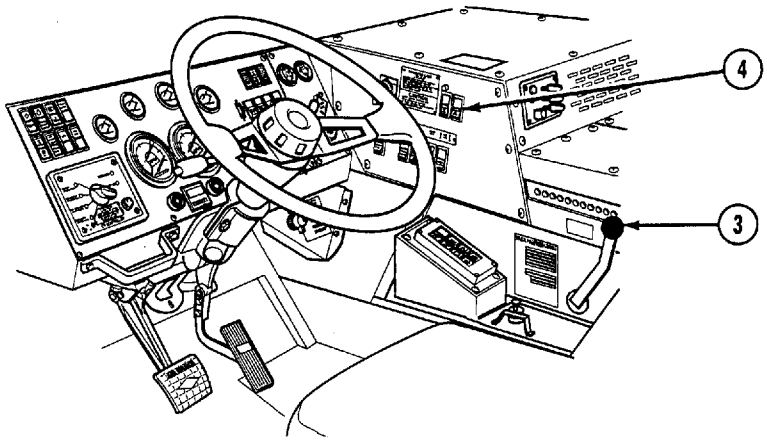
NOTE

Selection of first range limits speed.

(5) Use 1 (First range) when:

(a) Maximum pulling power is required

(b) Negotiating steep grades.



f. Select transfer case range:

(1) Set the TRANSFER CASE shift lever (3) to H (HI) for highway driving and secondary roads.

(2) Set the TRANSFER CASE shift lever (3) to L (LO) for adverse off-road driving and steep grades.

g. Select transfer case lockup. Refer to Table 1-28.

CAUTION

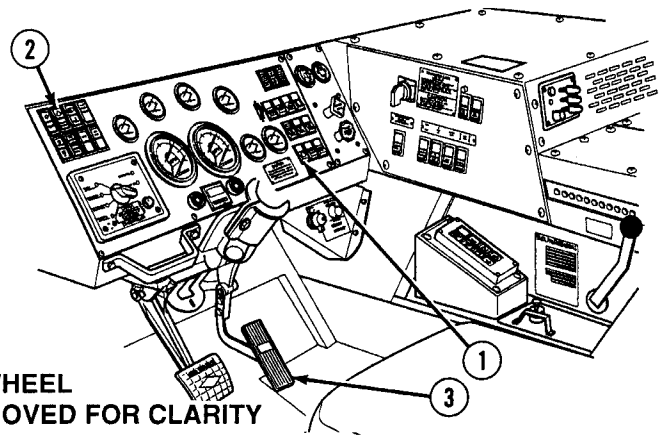
Do not engage transfer case lockup while wheels are slipping or when turning a corner. Damage to driveline may result.

(1) Push TRANSFER CASE LOCKUP switch (4).

(2) Decelerate for approximately two seconds to allow transfer case lockup to engage.

(3) To disengage TRANSFER CASE LOCKUP, push in TRANSFER CASE LOCKUP switch (4) to allow transfer case lockup to disengage.

2-18. OPERATING ENGINE BRAKE.



STEERING WHEEL
SHOWN REMOVED FOR CLARITY

WARNING

Apply engine brake only when truck tires have good traction. Use of engine brake on slick surfaces can cause truck to skid and cause injury or death to personnel.

NOTE

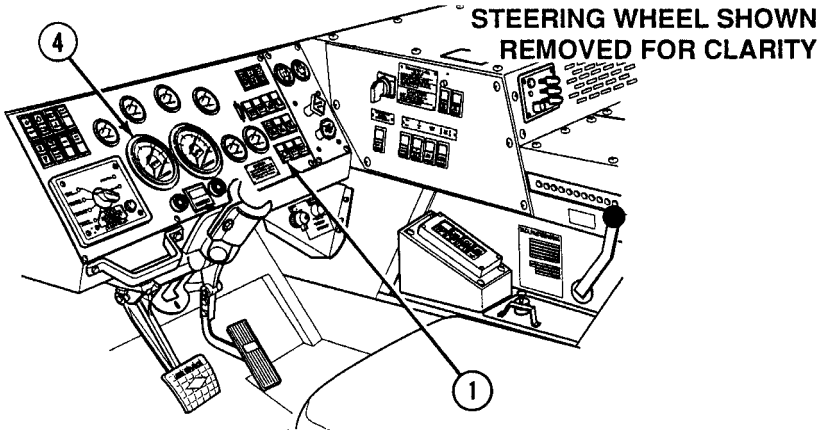
- Use engine brake only when additional braking is required (i.e. descending grades).
- Wheel brakes must be used in addition to engine brakes for maximum braking.
- The engine brake switch has three positions: OFF (Top Position), LOW (Center Position), and HIGH (Bottom Position).

a. Set the ENGINE BRAKE switch (1) to LOW, indicator light (2) will light.

NOTE

Engine brake does not operate below 1000 rpm.

b. Lift foot off the throttle control (3). Engine brake will automatically slow truck.



c. The transmission will select the optimum gear when using the engine brake. It should keep the rpm between 1650 and 2100. At 2100 rpm the engine brake will give its peak retarding horsepower.

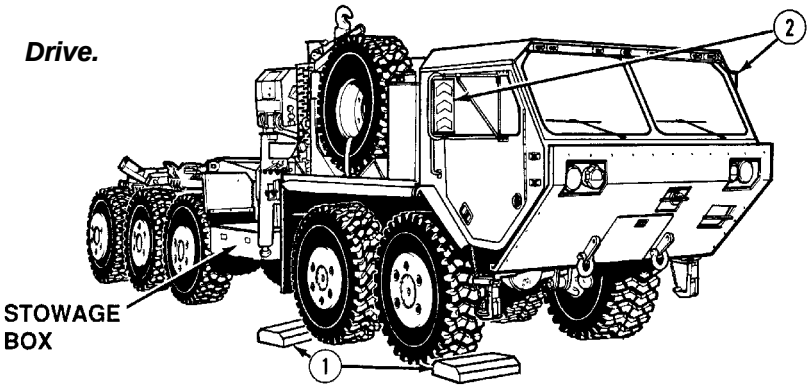
d. Optimum braking occurs with engine between 1650 and 2100 rpm. Select appropriate transmission range and engine brake to maintain desired effect. Do not over “rev” engine during braking.

e. If more braking is required, set ENGINE BRAKE switch (1) to HIGH.

f. Check that tachometer (4) reads between 1650 and 2100 rpm whenever engine brake is used.

2-19. ON-ROAD DRIVING PROCEDURES.

a. Drive.



WARNING

- Speed limits posted on curves reflect speeds that are considered safe for automobilies. Heavy trucks with a high center of gravity can roll over at these speed limits. Use caution and reduce your speed below the posted limit before entering a curve. Failure to comply may result in vehicle crash and injury or death to personnel.
- When operating truck at speeds of 55 mph (89 km/hr) with windows down, or when operating crane, hearing protection must be worn or hearing loss may result.

NOTE

If truck has less than 500 miles (805 km), check controls and indicators more often during operation and listen for unusual noises or vibrations. Refer to Troubleshooting Symptoms Para 3-3, if you encounter any problems.

(1) Remove and stow wheel chocks (1) in stowage box.

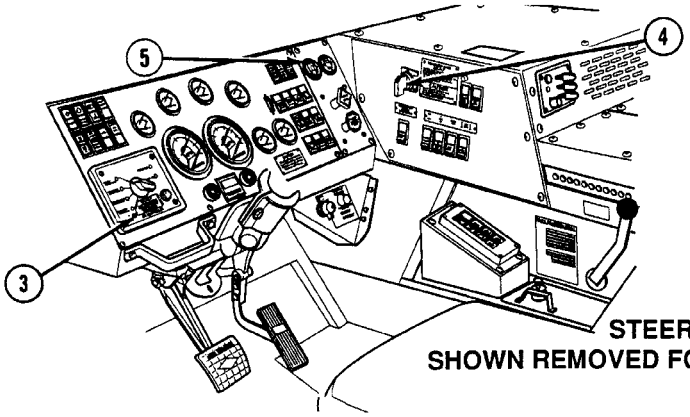
(2) Ensure Material Handling Crane (MHC) and outrigger jacks are secured in stowed position.

(3) Adjust each rear view mirror (2) so back of truck and view of road can be seen.

(4) Adjust foot rest if required (Para 2-12).

(5) Adjust seat as needed (Para 2-12).

(6) Adjust seat belt as needed (Para 2-12).



STEERING WHEEL
SHOWN REMOVED FOR CLARITY

WARNING

CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressures may not match driving speeds. Failure to follow these instructions may result in unsafe driving conditions or tire failure causing serious injury or death to personnel.

(7) Push on CTIS ON/OFF switch (3) on ON position.

CAUTION

During driving operations, LHS mode selector must be placed in OFF position or hydraulic system overheating will result.

(8) Ensure hydraulic selector switch (4) is in the OFF position.

(9) Start engine (Para 2-15).

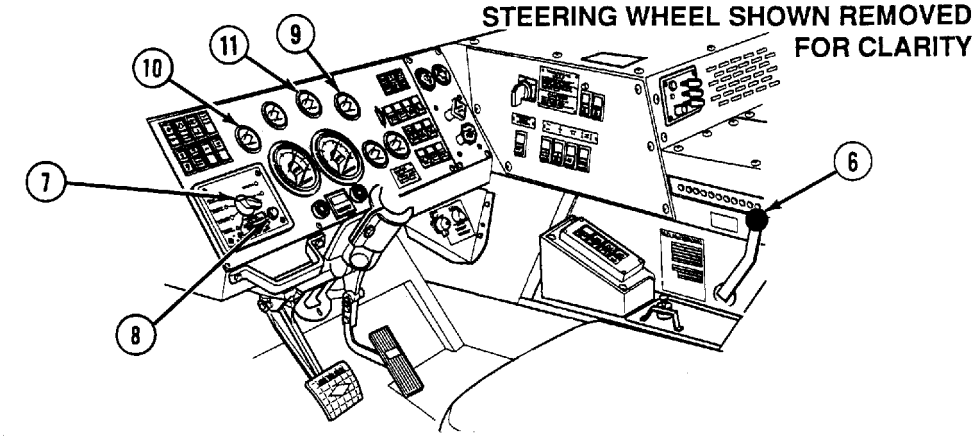
(10) Turn on lights as needed (Para 2-14).

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

(11) Ensure the needles in AIR PRESS gage (5) read at least 100 psi (690 kPa) before driving truck.

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



(12) Set the TRANSFER CASE shift lever (6) to the appropriate range (Para 2-17).

NOTE

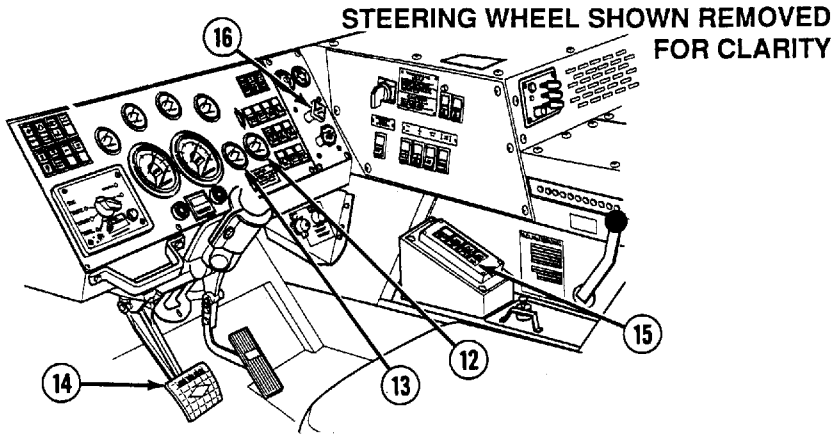
- CTIS may not engage properly if CTIS START switch is pressed too quickly.
- For a detailed explanation of the CTIS, refer to Para 2-24.
- Allow time for CTIS adjustment.

(13) Set the CTIS rotary selector switch (7) to the appropriate position. Press and hold CTIS START switch (8) for approximately one second.

(14) Check that the FUEL gage (9) shows enough fuel to complete mission.

(15) Check that the OIL PRESS gage (10) reads 5 to 10 psi (34 to 69 kPa) during idle or 40 to 60 psi (276 to 414 kPa) above idle.

(16) Check that the TRANS TEMP (transmission temperature) gage (11) reads 180 to 220 degrees F (82 to 104 degrees C) after transmission has warmed up.



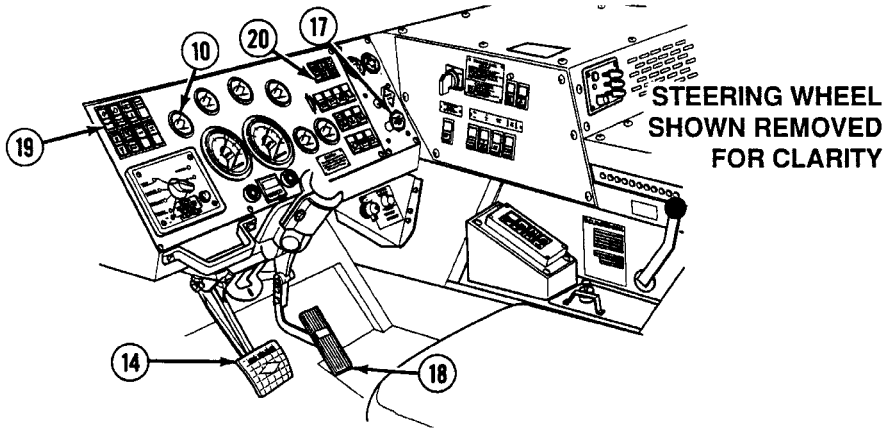
(17) Check that the 24-volt battery gage (12) reads 26 to 30 volts.

(18) Check that the 12-volt battery gage (13) reads 13 to 15 volts.

(19) Apply the service brake pedal (14) and press transmission range selector (15) button to appropriate range. Use Drive (D) for normal highway and use 4, 3, 2 or 1 for off road, steep grades or slippery conditions.

(20) Push in the parking brake control (16) to release brakes.

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



(21) If the trailer is attached to truck, push in trailer air supply control (17).

(22) Release the service brake pedal (14) and slowly press down on throttle control (18) until truck reaches desired speed.

CAUTION

- Do not hold steering wheel at full left or full right for longer than ten seconds. Oil overheating and pump damage can result.
- The CTIS increases tire inflation pressure when truck speed exceeds the allowable speed for each setting. When an increase in speed is required, maintain the lower speed until the tires are re-inflated to the correct pressure, to prevent damage to tires.

NOTE

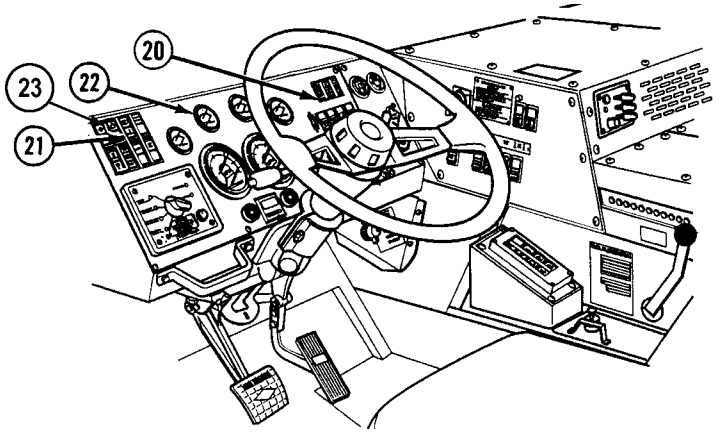
Check controls and indicators often during truck operation.

(23) Accelerate, brake and steer as required.

NOTE

Engine oil pressure has three monitoring systems, (oil light, CHECK GAGES light, and oil pressure gage) if two of the three systems, indicate a problem, park truck, shut down engine and notify Unit Maintenance. If only one system indicates a problem, and the other two indicate normal, proceed with mission and then notify Unit Maintenance.

(24) Check the engine oil pressure by monitoring oil light (19), CHECK GAGES light (20) and OIL PRESS gage (10).



NOTE

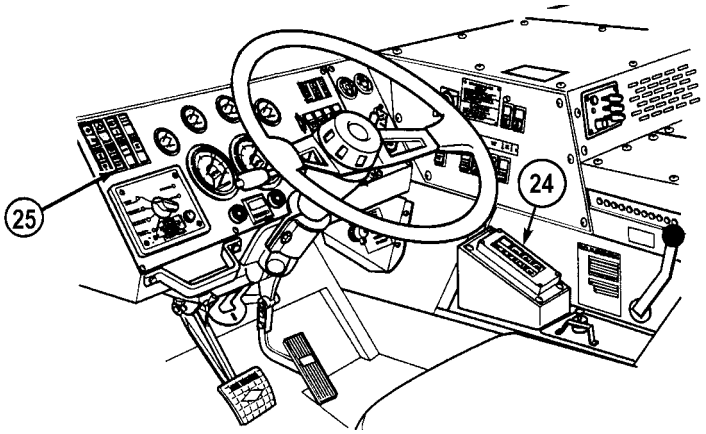
- Engine coolant temperature has three monitoring systems, (water light, CHECK GAGES light, and water temperature gage) if two of the three systems indicate a problem, park truck and idle engine at 800 to 1000 rpm until water temperature cools down, if water temperature does not cool down notify Unit Maintenance.
- If only one system indicates a problem, and the other two indicate normal, proceed with mission and then notify Unit Maintenance.

(25) Check the engine coolant temperature by monitoring water light (21), CHECK GAGES light (20), and WATER TEMP gage (22).

(26) If the CHECK GAGES light (20) illuminates other than at startup, there is a problem in the engine that could cause damage to the engine. Check for low oil pressure or high water temperature. If indications are normal, continue the mission. Notify Unit Maintenance at completion of mission.

(27) If the TRANS CHECK light (23) illuminates other than at startup, there is a potential problem in the transmission and transmission may need to be serviced. Check for correct oil level or high transmission oil temperature. If indications are normal, continue the mission. Notify Unit Maintenance at completion of mission.

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



CAUTION

DO NOT SHIFT light will illuminate when there is a problem with the transmission that can cause serious damage and possible failure of the transmission.

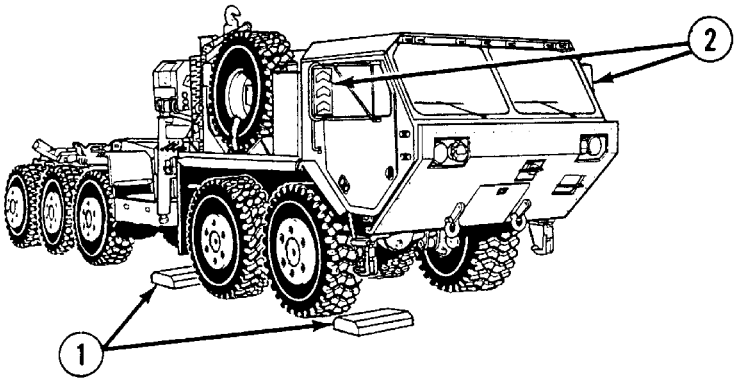
(28) If the DO NOT SHIFT light (24) illuminates while driving, find a safe place to pull over and stop. Refer to Troubleshooting Symptoms Para 3-3 in this maunal.

WARNING

If EMERGENCY STEER light illuminates when driving, immediately pull truck over to side of road and stop, serious injury or death could result.

(29) If EMERGENCY STEER light (25) illuminates, there is a problem in the primary hydraulic steering system, and the emergency steering back up hydraulic system has been activated. As truck speed gets below approximately 15 mph (24 km/hr), increased steering effort will be required to steer truck, notify Unit Maintenance.

b. Reverse.



CAUTION

- Backing the truck and trailer for minor repositioning is permitted without locking the turntable, provided caution is used when backing up. Failure to keep the trailer and truck aligned while backing up could result in the trailer jackknifing, possibly causing severe drawbar and truck damage.
- Trailer turntable must be unlocked after completing backing operations. Failure to unlock turntable will result in a sheared pin or damaged trailer.

(1) If trailer is attached to truck, lock turntable on trailer (TM 9-2330-385-14).

(2) Remove and stow wheel chocks (1).

CAUTION

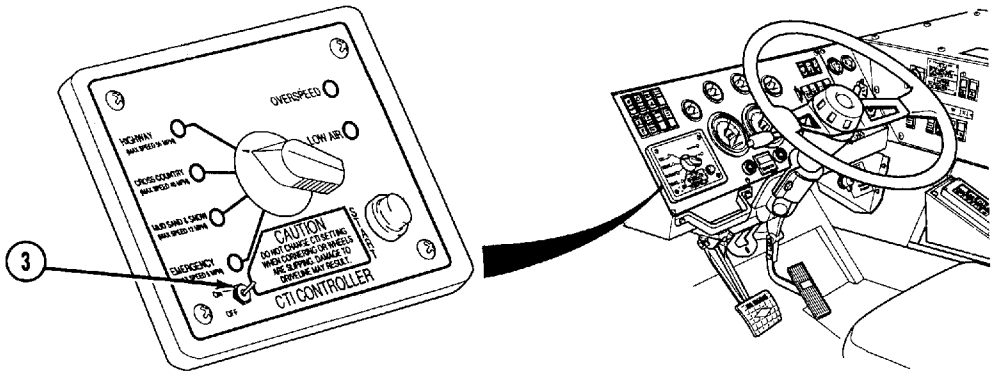
Mirrors should be folded in before backing out of an enclosed area. Damage to equipment may result.

(3) Turn each rear view mirror (2) so back of truck and view of road can be seen.

(4) Adjust foot rest if required (Para 2-12).

(5) Adjust seat as needed (Para 2-12).

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



(6) Adjust seat belt as needed (Para 2-12).

(7) Start engine (Para 2-15).

CAUTION

CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressures may not match driving speeds, resulting in unsafe driving conditions or tire damage.

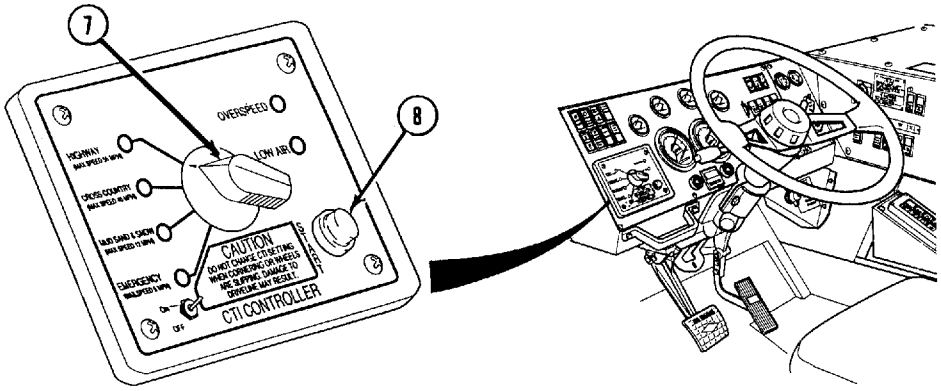
NOTE

If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated (Para 2-57j).

(8) Ensure the CTIS ON/OFF switch (3) is in the ON position (Para 2-24).

NOTE

- CTIS may not engage properly if CTIS START switch is pressed too quickly.
- For a detailed explanation of the CTIS, refer to Para 2-24.
- Allow time for CTIS adjustment.



(9) Set the CTIS rotary selector switch (7) to the appropriate position. Press and hold CTIS START switch (8) for approximately one second.

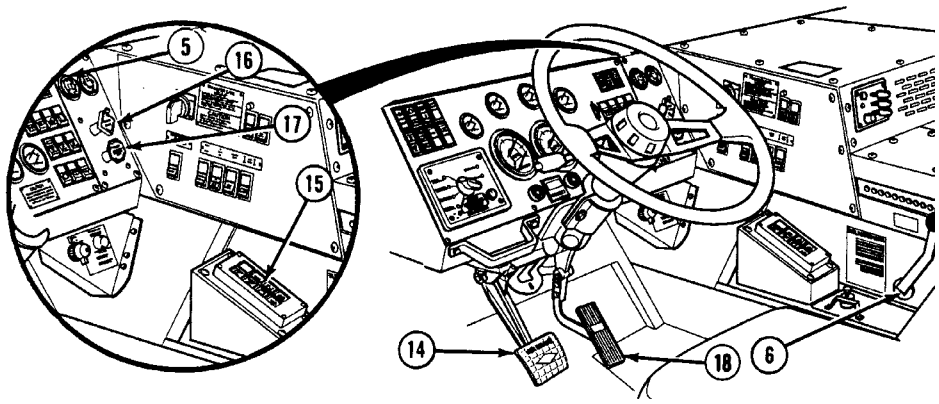
WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

(10) Turn on lights as required (Para 2-14).

(11) Check gages and indicators for normal readings (Para 2-19).

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



(12) Check that AIR PRESS gage (5) reads at least 100 psi (690 kPa).

WARNING

Driver has limited vision to rear. Ground guide is required when driving truck in reverse to prevent possible injury.

CAUTION

Do not move TRANSFER CASE shift lever when truck is moving or when transmission is in gear. Severe damage to drive line will result.

(13) Set the TRANSFER CASE shift lever (6) to desired range (Para 2-17).

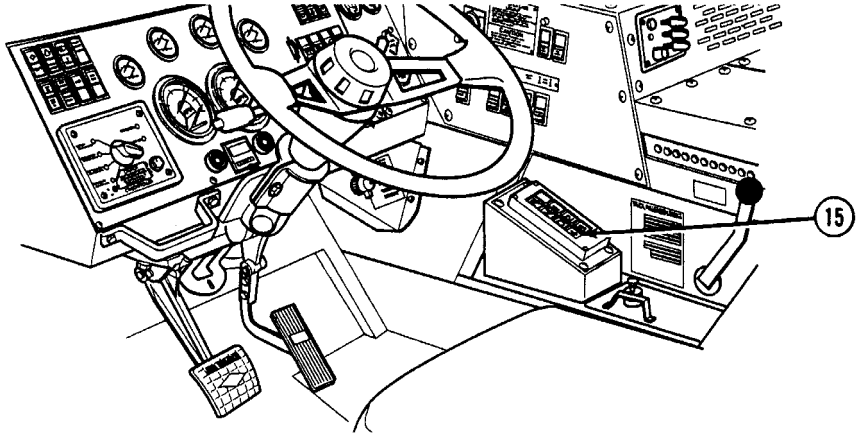
(14) Apply service brake pedal (14) and press the transmission range selector (15) button Reverse (R).

(15) Push in the parking brake control (16).

(16) If trailer is attached to the truck, push in the trailer air supply control (17).

(17) Release the service brake pedal (14) and slowly press down on throttle control (18).

(18) Follow direction from ground guide.



CAUTION

Do not hold steering wheel at full left or full right position for longer than ten seconds. Oil overheating and pump damage can result.

(19) Accelerate, brake and steer as required.

c. Slippery Conditions On Road or Off Road.

WARNING

Apply engine brake only when truck tires have good traction. Use of engine brake on slippery surface can cause truck to skid and cause injury to personnel.

CAUTION

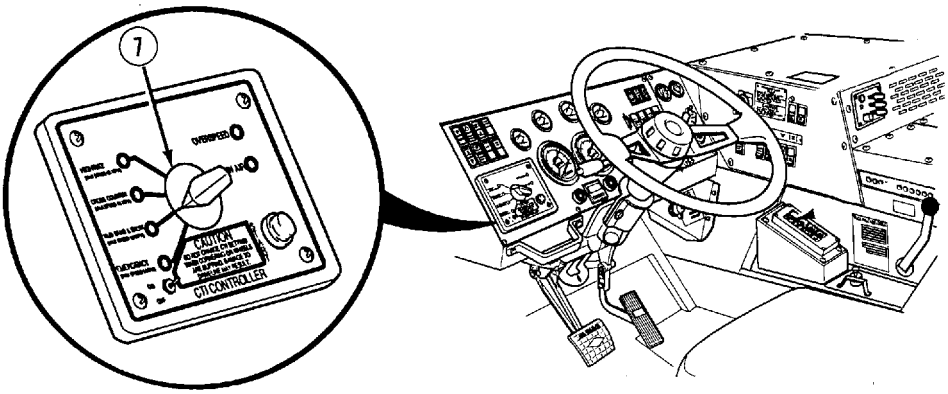
Do not change setting of the CTIS rotary selector switch while the wheels are in a slip condition. Severe damage to drive train will result.

NOTE

A lower range will give better control on slick or icy roads as well as on steep downgrades.

(1) Manually downshift the transmission range selector (15) to match driving conditions.

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



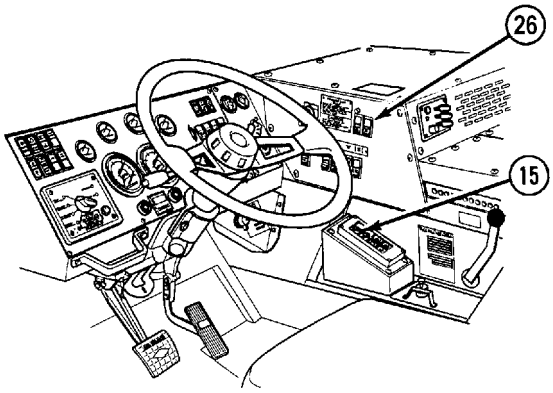
CAUTION

When using EMERGENCY position on CTIS, top speed should not exceed five mph (eight km/h) and distance travelled should not exceed five miles (eight km). Care must be exercised as steering response is limited due to full drive line lock-up or damage to equipment may result. Refer to Table 2-1.

NOTE

Refer to Table 1-28 for additional information.

(2) For maximum traction under adverse conditions, set the CTIS rotary selector switch (7) to MUD, SAND, AND SNOW position, or if conditions warrant, to the EMERGENCY position.



CAUTION

Do not engage transfer case lockup while wheels are slipping or when turning a corner. Damage to drive line may result.

(3) Engage the TRANSFER CASE LOCK-UP (26) as required. Refer to Table 1-28.

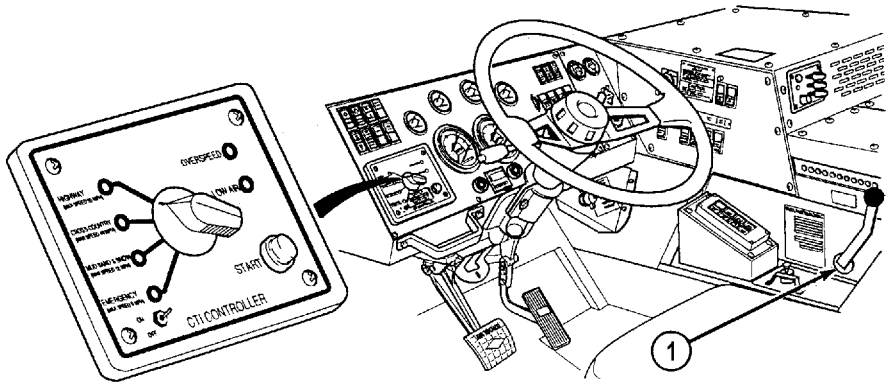
CAUTION

Increased tire and drive line wear will occur when the transfer case is locked.

(4) When conditions improve or grade is crested, return the transmission range selector (15) to normal position, and push the TRANSFER CASE LOCK-UP switch (26) to the unlock position.

(5) If CTIS EMERGENCY was selected, back truck up approximately 5 to 10 ft. (1.5 to 3 m) to relieve drive line loading.

2-20. OFF-ROAD DRIVING PROCEDURES.



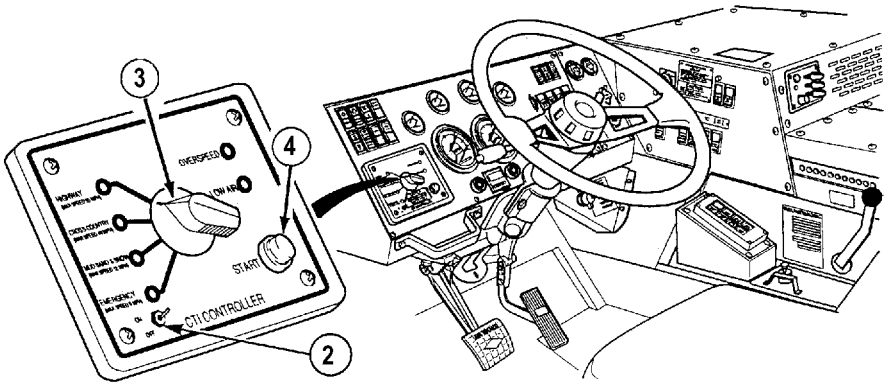
WARNING

The PLS center of gravity (CG) can be higher during Engineering Mission Module (EMM) operations than for other PLS operations. A higher CG limits cornering and side slope capabilities. Limit side slope operation and transportation to no more than a 20 percent grade. Use extreme caution during cornering and side slope operations when an EMM is loaded onto PLS truck. Failure to comply may result in vehicle rollover causing injury or death to personnel.

CAUTION

Before operating off-road, mud flaps need to be pinned on storage hook located on mud flap bracket. If a steep slope is encountered and mud flaps are not pinned, damage can result.

a. Place transfer case lever (1) in proper range (Para 2-17).



WARNING

CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressures may not match driving speeds. Failure to follow these instructions may result in unsafe driving conditions or tire failure causing serious injury or death to personnel.

NOTE

If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated (Para 2-57j).

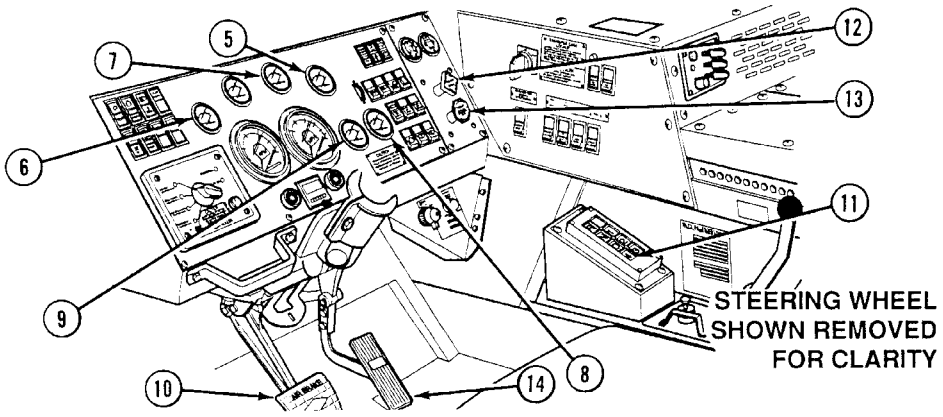
b. Push CTIS ON/OFF switch (2) to ON position.

NOTE

- CTIS may not engage properly if CTIS START button is pressed too quickly.
- For a detailed explanation of the CTIS, refer to Para 2-24.
- Allow time for CTIS adjustment.

c. Set CTIS rotary selector switch (3) to desired position. Refer to Table 1-28. Press and hold CTIS START button (4) for approximately one second (Para 2-24).

2-20. OFF-ROAD DRIVING PROCEDURES (CONT).



d. Check that the FUEL gage (5) shows enough fuel to complete mission.

e. Check that the OIL PRESS gage (6) reads 5 to 10 psi (34 to 69 kPa) during idle or 40 to 60 psi (276 to 414 kPa) above idle.

f. Check that the TRANS TEMP (transmission temperature) gage (7) reads 180 to 220 degrees F (82 to 104 degrees C) after transmission has warmed up.

g. Check that the 24-volt battery gage (8) reads 26 to 30 volts.

h. Check that the 12-volt battery gage (9) reads 13 to 15 volts.

i. Apply the service brake pedal (10) and press the transmission range selector (11) button to appropriate range. Drive (D) for normal highway and 4, 3, 2 or 1 for off road, steep grades or slippery conditions.

j. Push in the parking brake control (12) to release brakes.

k. If the trailer is attached to truck, push in trailer air supply control (13).

l. Relase the service brake pedal (10) and slowly press down on the throttle control (14) until truck reaches desired speed.

CAUTION

- Do not hold steering wheel at full left or full right for longer than ten seconds. Oil overheating and pump damage can result.
- The CTIS increases tire inflation pressure when truck speed exceeds the allowable speed for each setting. When an increase in speed is required, maintain the lower speed until the tires are re-inflated to the correct pressure to prevent damage to tire.

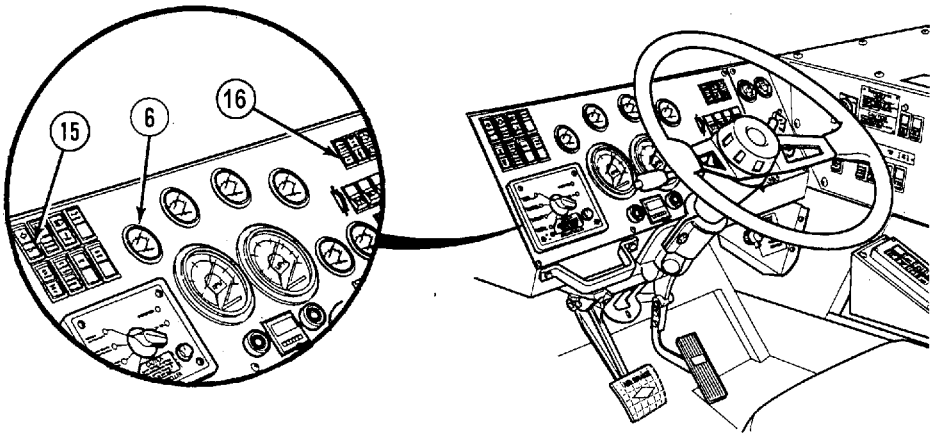
NOTE

Check controls and indicators often during truck operation.

m. Accelerate, brake and steer as required.

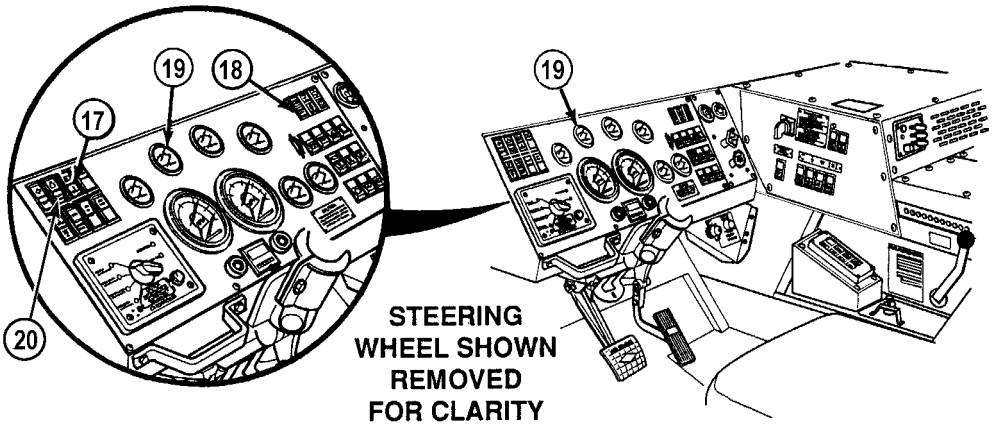
NOTE

Engine oil pressure has three monitoring systems, (oil light, CHECK GAGES light, and oil pressure gage). If two of the three systems indicate a problem, park truck, shut down engine and notify Unit Maintenance. If only one system indicates a problem and the other two indicate normal, proceed with mission and then notify Unit Maintenance.



n. Check the engine oil pressure by monitoring oil light (15), CHECK GAGES light (16) and OIL PRESS gage (6).

2-20. OFF-ROAD DRIVING PROCEDURES (CONT).



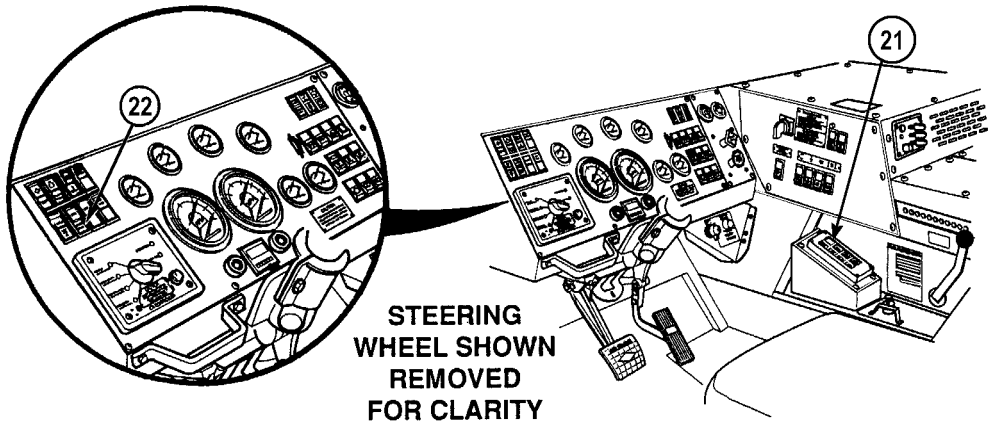
NOTE

- Engine coolant temperature has three monitoring systems, (water light, CHECK GAGES light, and water temperature gage). If two of the three systems indicate a problem, park truck and idle engine at 800 to 1000 rpm until water temperature cools down. If water temperature does not cool down, notify Unit Maintenance.
- If only one system indicates a problem and the other two indicate normal, proceed with mission and then notify Unit Maintenance.

o. Check the engine coolant temperature by monitoring water light (17), CHECK GAGES light (18), and WATER TEMP gage (19).

p. If the CHECK GAGES light (18) illuminates other than at startup, there is a problem in the engine that could cause damage to the engine. Check for low oil pressure or high water temperature. If indications are normal, continue mission. Notify Unit Maintenance at completion of mission.

q. If the TRANS CHECK light (20) illuminates other than at startup, there is a potential problem in the transmission and transmission may need to be serviced. Check for correct oil level or high transmission oil temperature. If indications are normal, continue the mission. Notify Unit Maintenance at completion of mission.



CAUTION

DO NOT SHIFT light will illuminate when there is a problem with the transmission that can cause serious damage and possible failure of the transmission.

r. If the DO NOT SHIFT light (21) illuminates while driving, find a safe place to pull over and stop. Refer to Troubleshooting Symptoms Para 3-3 in this manual.

WARNING

If EMERGENCY STEER light illuminates when driving, immediately pull truck over to side of road and stop. Serious injury or death could result.

s. If the EMERGENCY STEER light (22) illuminates, there is a problem in the primary hydraulic steering system, and the emergency steering back up hydraulic system has been activated. As truck speed gets below approximately 15 mph (24 km/hr) increased steering effort will be required to steer truck. Notify Unit Maintenance.

2-21. OPERATING ON STEEP GRADES.

WARNING

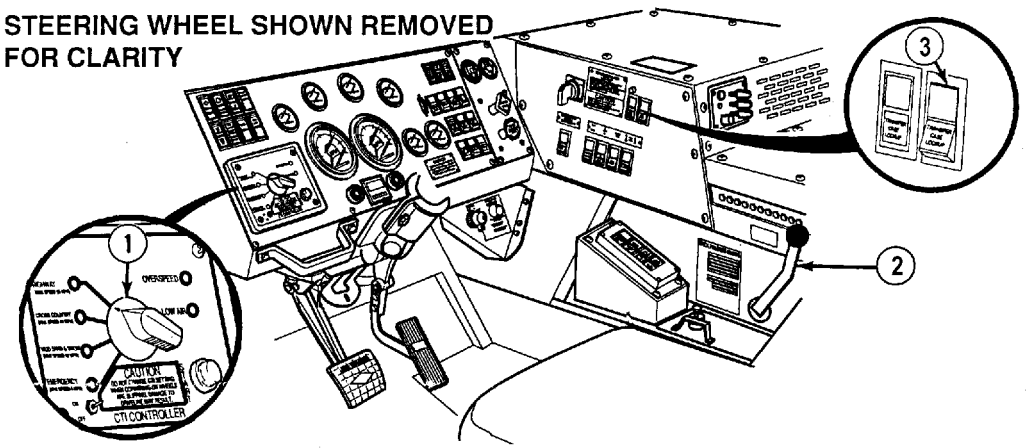
- Speed limits posted on curves reflect speeds that are considered safe for automobilies. Heavy trucks with a high center of gravity can roll over at these speed limits. Use caution and reduce your speed below the posted limit before entering a curve. Failure to comply may result in vehicle crash and injury or death to personnel.
- The PLS center of gravity (CG) can be higher during Engineering Mission Module (EMM) operations than for other PLS operations. A higher CG limits cornering and side slope capabilities. Limit side slope operations and transportation to no more than 20 percent grade. Use extreme caution during cornering and side slope operations when an EMM is loaded onto PLS truck. Failure to comply may result in vehicle rollover causing injury or death to personnel.

CAUTION

Before operating off-road, mud flaps need to be pinned on storage hook located on mud flap bracket. If a steep slope is encountered and mud flaps are not pinned, damage can result.

NOTE

If performing side slope operations, close fuel shutoff valves between main fuel tank and auxiliary fuel tank (Para 2-13).



a. Driving Up Moderate to Steep Grades.

(1) Check that the CTIS rotary selector switch (1) and transfer case shift lever (2) setting matches terrain conditions (Para 2-24) and refer to Table 1-28.

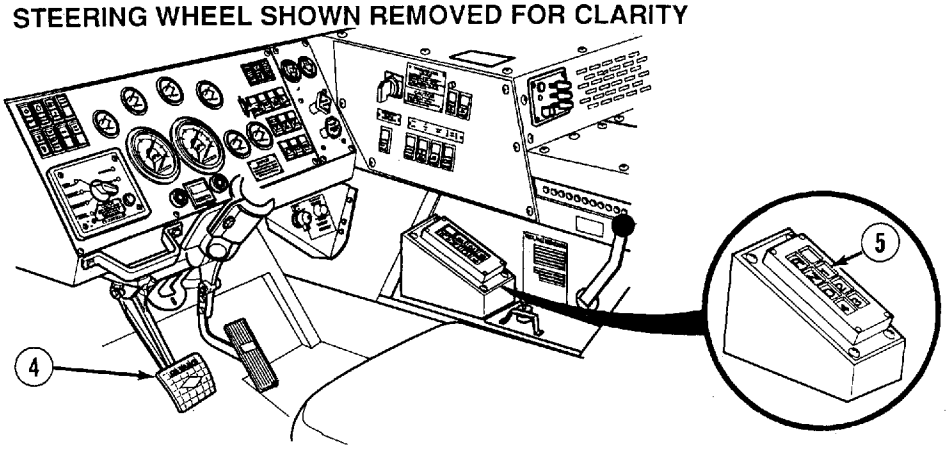
CAUTION

Do not engage transfer case lockup while wheels are slipping or when turning a corner. Damage to driveline may result.

(2) Engage TRANSFER CASE LOCK-UP (3) on approaching the grade and decelerate for approximately two seconds to allow TRANSFER CASE LOCKUP to engage.

2-21. OPERATING ON STEEP GRADES (CONT).

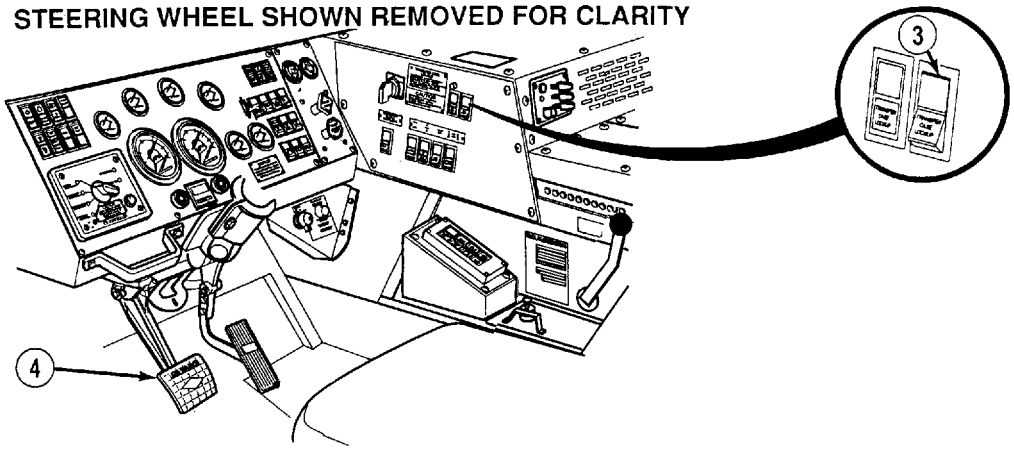
STEERING WHEEL SHOWN REMOVED FOR CLARITY



CAUTION

Do not shift transmission into first gear while truck is moving. Severe damage to drive line will result.

(3) Apply the service brake pedal (4) and place the transmission selector (5) in first gear if encountering an extreme grade (greater than 15 percent). If grades are less than 15 percent, all other gear selections are acceptable while climbing.



CAUTION

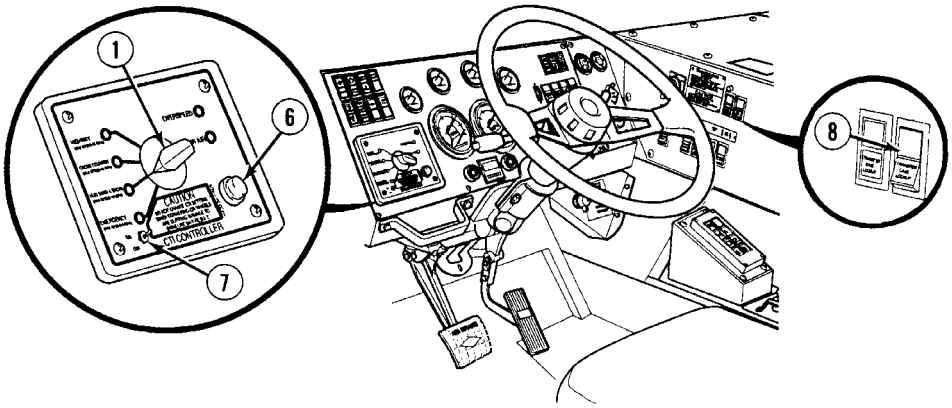
Excessive wheel slippage while traveling up a steep upgrade could cause drive line damage. When wheel slippage is detected, immediately stop the truck.

(4) Proceed up the grade by releasing service brake pedal (4) and gradually applying throttle as traction allows. If wheels start to slip, stop truck and go to Step (7).

(5) After reaching the top of the grade, stop the truck and unlock transfer case (3). Select appropriate transmission gear, transfer case range and CTIS setting for the terrain.

(6) If CTIS EMERGENCY was selected, back truck up approximately five to ten ft. (1.5 to 3 m) to relieve drive line loading.

2-21. OPERATING ON STEEP GRADES (CONT).



NOTE

- CTIS may not engage properly if CTIS START button is pressed too quickly.
- For a detailed explanation of the CTIS, refer to Para 2-24.
- Allow time for CTIS adjustment.

(7) With truck stopped, turn CTIS rotary selector switch (1) to MUD, SAND AND SNOW and then press and hold the START switch (6) for approximately one second. When the CTIS indicator light (7) remains solid green gradually apply the throttle and release brakes as traction allows. If wheels start to slip, stop the truck and go to Step (8).

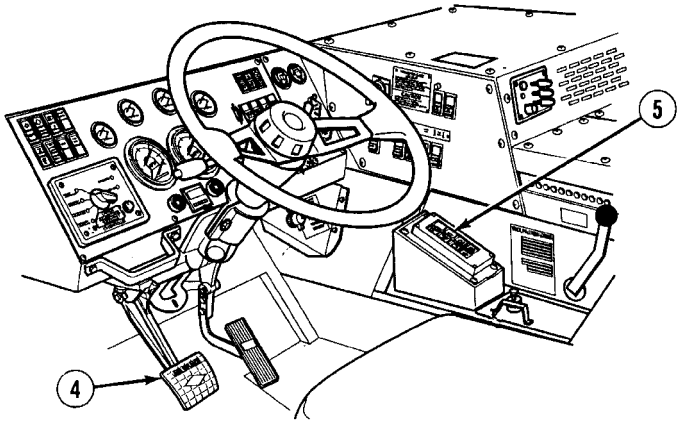
CAUTION

When using EMERGENCY position on CTIS, top speed should not exceed five mph and distance travelled should not exceed five miles. Care must be exercised, as steering response is limited due to full drive line lock-up, or damage to equipment may result.

(8) With the truck stopped, turn the CTIS rotary selector switch (1) to EMERGENCY. Do not press the START button. Gradually apply the throttle control and release brakes as traction allows.

(9) After reaching the top of the grade, stop the truck and disengage the TRANSFER CASE LOCK-UP (8). Select the appropriate transmission gear and the CTIS setting for the terrain.

b. Driving Down Steep Grades.



CAUTION

- Do not allow speed to go above 2100 rpm when driving downhill or damage to engine can result.
- Engine brake operates best when engine speed is between 1650 and 2100 rpm. Transmission torque converter lockup will disengage below 1650 rpm resulting in loss of engine braking.

(1) Adjust transmission range selector (5) as needed.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application when pressure drops below 45 psi (310 kPa). Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

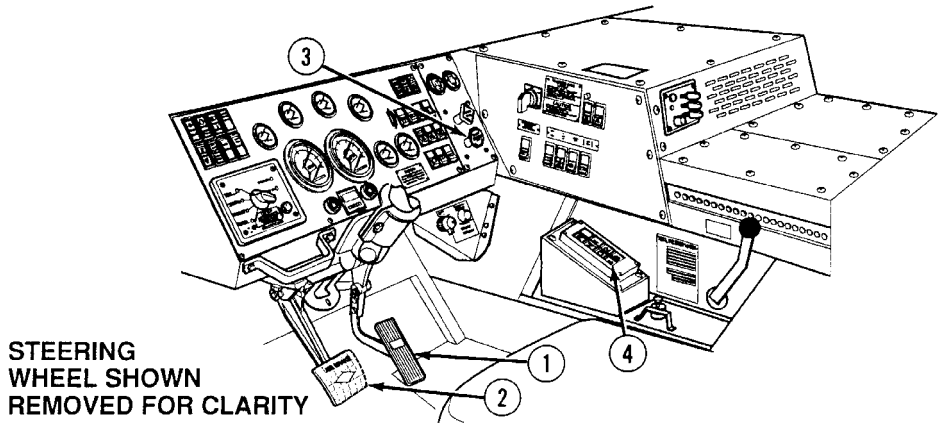
CAUTION

If pulling trailer during periods of heavy braking, trailer brakes may over adjust and cause trailer brakes to drag when brake drums cool down. If this occurs, notify Unit Maintenance. Failure to comply may result in damage to equipment.

(2) Use service brake (4) as needed to control truck speed.

(3) Use engine brake as needed (Para 2-18).

2-22. PARKING TRUCK.



WARNING

Do not park truck on steep grades. Serious injury to personnel could result.

a. Lift foot off of the throttle control (1). Let transmission automatic downshift slow truck.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

b. Push down on the service brake pedal (2) until truck comes to complete stop.

WARNING

Do not park truck on steep grade. Serious injury to personnel could result.

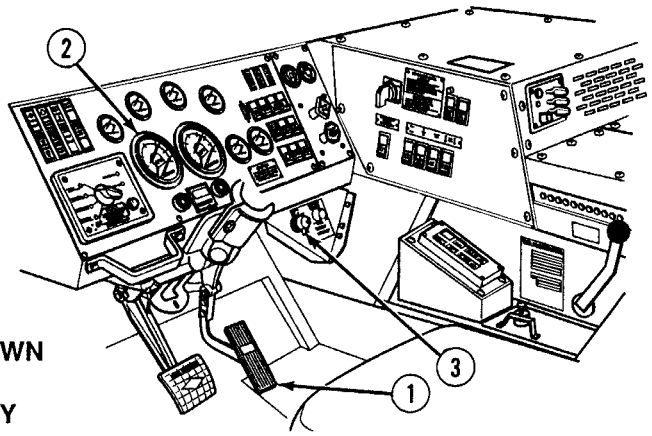
c. Pull out the PARKING BRAKE control (3).

d. Press transmission range selector button (4) to Neutral (N).

e. Align the front tires in straight-ahead position.

f. Chock wheels.

2-23. SHUTTING OFF ENGINE.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

a. Park truck (Para 2-22).

CAUTION

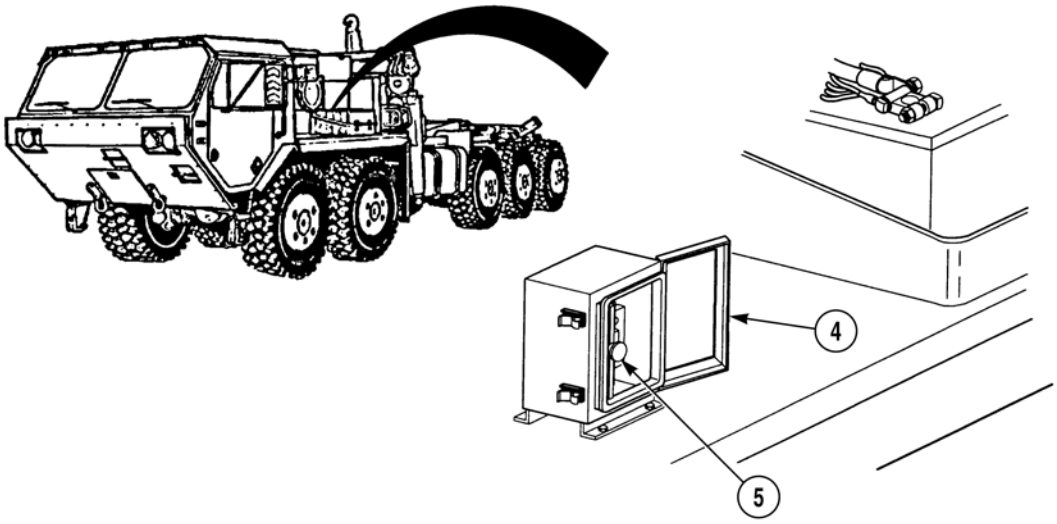
Before shutting down engine, increase tachometer to 800 to 1000 rpm at no-load for three to five minutes to allow turbocharger to slow down and cool off. Turbocharger may be damaged if not allowed to cool off.

b. Push down and hold throttle control (1) until tachometer (2) reads 800 to 1000 rpm.

c. Run engine at 800 to 1000 rpm for three to five minutes.

d. Lift foot off throttle control (1).

e. Turn engine OFF/ON/START switch (3) to OFF.



NOTE

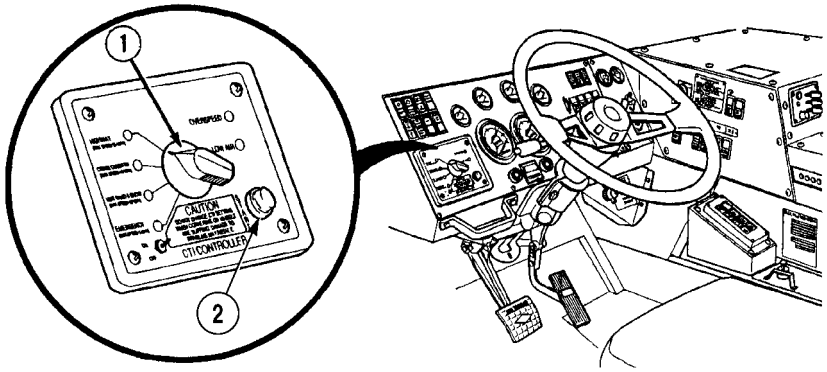
Perform Steps ***f.*** through ***h.*** if truck is to be in storage for more than seven days and truck is equipped with battery disconnect switch.

f. Open door of battery disconnect switch box (4).

g. Pull out battery disconnect switch (5).

h. Close and latch door of battery disconnect switch box (4).

2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS).



CAUTION

- The CTIS system should not be used indefinitely to maintain tire pressure in a leaking tire.
- Do not use compressed air from sources other than the truck air system. Moisture and/or contaminates entering system will affect reliability.
- Do not operate truck if hub cap is removed from wheel assembly, damage to wheel valves or hoses may result.

NOTE

- If an air leak is suspected, press start button (2) when system is on.
- If the CTIS system can maintain tire pressure in one or more leaking tires, the mission can be completed before repairs are made.

a. General.

(1) The PLS Central Tire Inflation System (CTIS) (1) is designed to improve traction under different driving conditions and to maximize mobility without sacrificing tire life. It will automatically adjust the pressure in all the tires to correspond to the rotary selector switch position selected and activated by the operator.

(2) The CTIS has four possible settings, HIGHWAY, CROSS COUNTRY, MUD, SAND AND SNOW and EMERGENCY. Each has a maximum allowable speed. MUD, SAND AND SNOW setting and EMERGENCY setting have axle lockup modes.

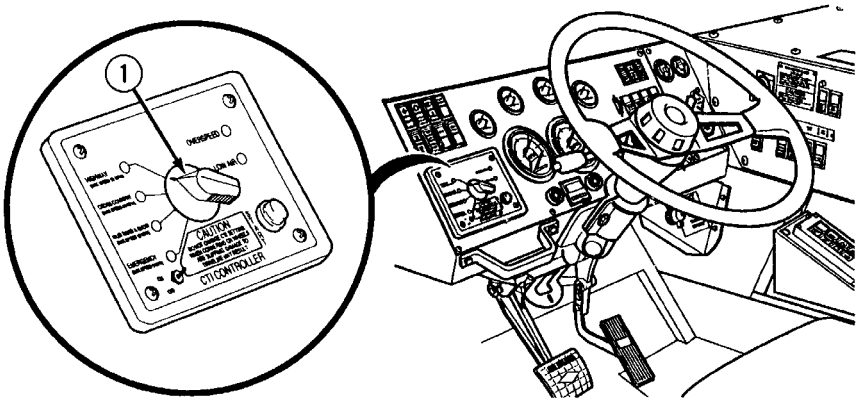
(3) The CTIS increases tire inflation pressure when truck speed exceeds the allowable speed for each setting. When an increase in speed is required, maintain the lower speed until the tires are re-inflated to the correct pressure.

Table 2-6. CTIS Maximum Allowable Speeds and Lockup Modes

SETTING	SPEED LIMIT	LOCKUP MODE
1. HIGHWAY	55 mph (88 km/h)	No lockup.
2. CROSS COUNTRY	40 mph (64 km/h)	No lockup.
3. MUD, SAND AND SNOW	12 mph (19 km/h)	Interaxle differentials lockup. (Axles one and two rotate at the same rate.) (Axles three, four and five rotate at the same rate.) (Tires on each axle may rotate independently.)
4. EMERGENCY	5 mph (8 km/h)	Interaxle differentials lockup. (Axles one and two rotate at the same rate.) (Axles, three, four and five rotate at the same rate.) Side-to-side axle differentials lockup only when transfer case is shifted to low range. (Causes the tire on each axle to rotate at the same rate.)

2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS) (CONT).

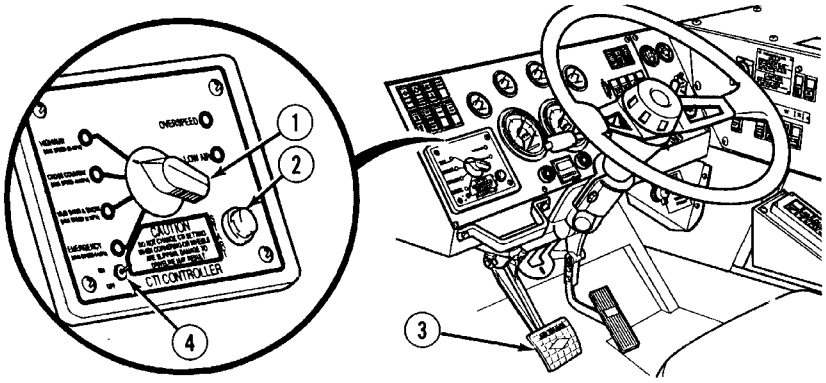
b. Operation.



(1) The CTIS rotary selector switch (1) directly controls the driveline axle lockup selection as shown above regardless of speed, LED indication or CTIS being ON or OFF. The CTIS system is operational only when the ignition switch is on.

CAUTION

- Do not move the rotary selector switch to change CTIS setting while the wheels are slipping or turning a corner. Damage to driveline may result.
- The CTIS increases tire inflation pressure when truck speed exceeds the allowable speed for each setting. When an increase in speed is required, maintain the lower speed until the tires are re-inflated to the correct pressure.

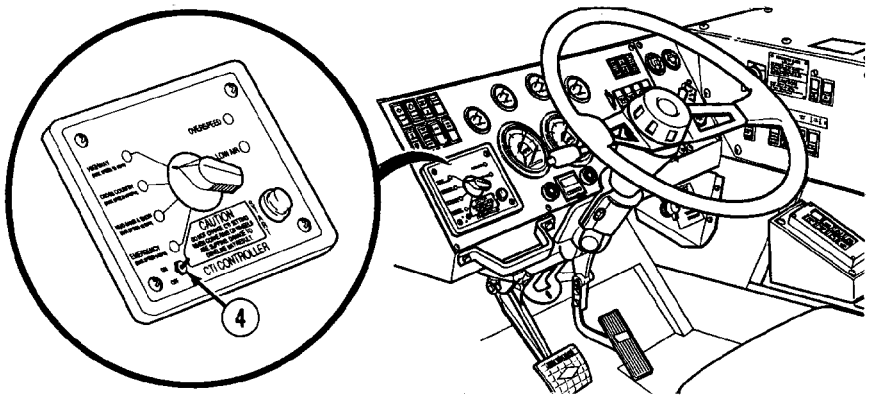


NOTE

- Select the proper CTIS setting before entering an area where poor traction conditions are likely to occur.
- To allow faster inflation time when truck is parked with engine running, transmission in neutral and parking brake applied, it may be necessary to increase engine speed to approximately 2100 rpm.
- If the CTIS malfunctions, turn the ON/OFF switch to OFF, then turn to ON. This action will reset the controller and may eliminate the problem.
- If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated (Para 2-57j).
- If an air leak is suspected, press CTIS START button (2) when system is on.

(2) The CTIS rotary selector switch (1) setting may be changed by the operator with the truck stationary or moving. This action will engage a new driveline axle lockup mode. This does not change the CTIS setting unless the CTIS START button (2) is pressed to initiate the change. To change the CTIS selector rotary switch setting while moving, drive the truck in a straight line and momentarily let up on the throttle control (3). This allows driveline axle lockups to engage. The CTIS ON/OFF switch (4) is used to turn the CTIS ON/OFF. Normally the CTIS will be left in the ON position. CTIS ON/OFF switch should be turned to OFF position when a CTIS system failure occurs.

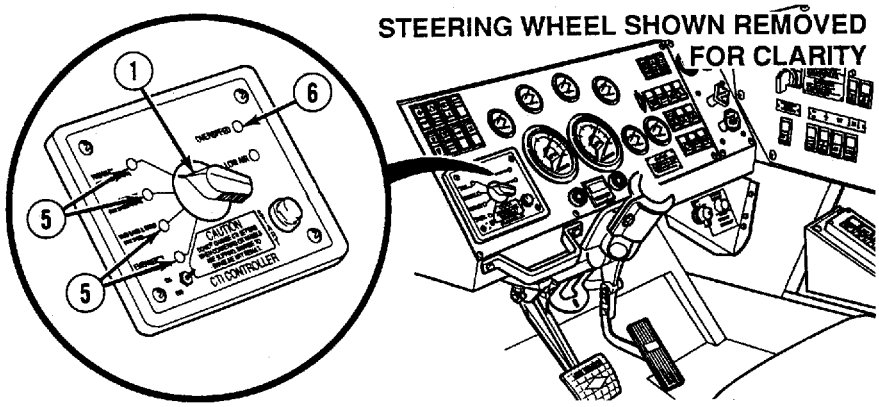
2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS) (CONT).



(3) The CTIS controller performs a speed sensing operation which computes the average truck speed during a one minute period. The average speed is compared to the maximum speed allowed for the current setting, and if the average speed exceeds the allowed maximum speed the CTIS is automatically engaged to inflate the tires to the next higher setting. Driveline axle lockup is not affected by automatic CTIS engagement. Driveline axle lockup for interaxle differential and side to side axle lockup is engaged through the CTIS rotary selector switch. The driveline axle lockup function will still work when the CTIS ON/OFF switch (4) is turned to the OFF position. Transfer case lockup is controlled by a separate switch located on the side panel.

Table 2-7. CTIS Maximum Air Pressure Settings (Cold or Hot)

SETTING	FRONT WHEELS	REAR WHEELS
1. HIGHWAY	65 psi (448 kPa)	75 psi (517 kPa)
2. CROSS COUNTRY	34 psi (234 kPa)	38 psi (262 kPa)
3. MUD, SAND AND SNOW	20 psi (138 kPa)	23 psi (159 kPa)
4. EMERGENCY	15 psi (103 kPa)	18 psi (124 kPa)



CAUTION

The CTIS rotary selector switch setting should always correspond to the lighted setting. If the light and switch positions do not match, the operator must take steps to correct the situation. Failure to comply could cause unexpected adjustment of tire pressures, which may result in damage to equipment.

(4) A steady green light (5) at the initial switch setting is normal when the CTIS is inflated to selected level. Also, the driveline lock up selection is engaged for this setting. If no changes in the CTIS setting occur during a 60 minute period, a check cycle is initiated by the controller to check the air pressure in the tires and adjust the pressure as required.

(5) If the average truck speed exceeds the speed limit of the setting for a period of one minute, the amber overspeed light (6) will begin to flash slowly. At the same time the amber overspeed light starts to flash, the CTIS will be activated to inflate the truck tires to the next higher setting.

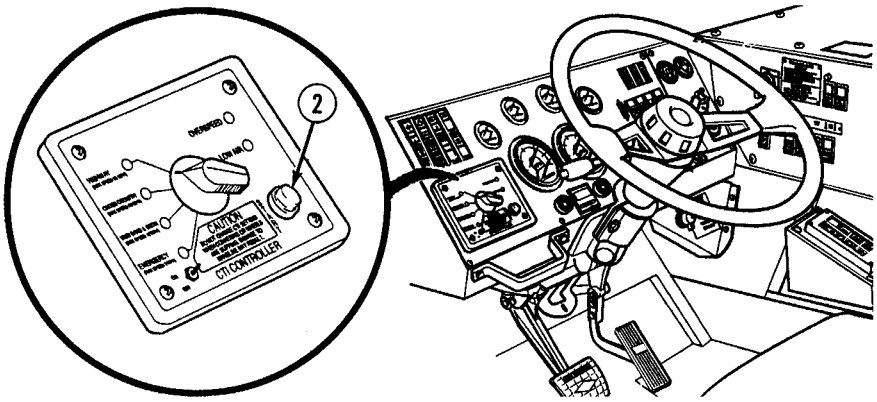
(a) While the CTIS is inflating, the green light at the next higher level setting will also flash slowly until the next higher setting is reached.

(b) When the next higher CTIS setting is reached, the amber overspeed light will stop flashing and be extinguished. The green light indicating the new CTIS setting will begin to flash rapidly. This indicates to the operator that the CTIS setting and driveline lockup setting no longer match.

(c) If CTIS setting and driveline lockup do not match, operator must perform one of the following:

1 Move CTIS rotary selector switch (1) to the lighted position to match driveline lockup to tire pressure.

2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS) (CONT).



2 Reduce speed and press the CTIS START button (2) for at least one second to lower tire pressure to match CTIS rotary selector switch setting.

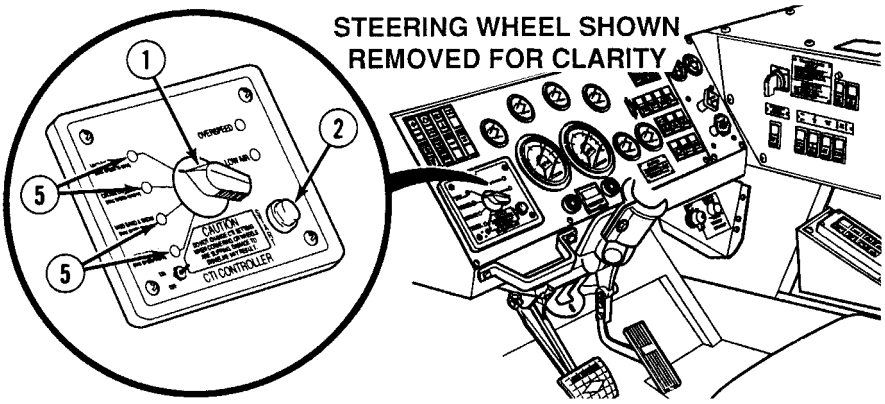
(6) If the average truck speed is allowed to exceed the new CTIS setting for another minute, the CTIS will again activate to inflate the tires to next higher setting.

(7) If the truck continues to overspeed, the CTIS will automatically adjust the tire pressure up to the next higher setting until highway setting is achieved.

(8) If the truck has been overspeeding and the CTIS has engaged to inflate to the next higher setting, decreasing the speed will not automatically lower the tire pressure. The operator must reduce speed and press the CTIS START button (2).

(9) The CTIS will automatically turn off and the red LOW AIR light will light solid if the truck air pressure drops below a predetermined level (approximately 90 psi (621 kPa)) to provide priority to the brake system. It will automatically resume operation when the air pressure builds up to a higher setting (approximately 110 psi (758 kPa)). The driveline lockup setting is not affected when the CTIS shuts off due to a low air pressure condition.

c. Operating Procedures.



CAUTION

Do not move the CTIS rotary selector switch while the wheels are slipping or turning a corner. Damage to driveline may result.

NOTE

- Select the proper CTIS setting before entering an area where poor traction conditions are likely to occur.
- If truck is stopped during CTIS mode change, an increase in engine rpm is required to provide adequate air supply. An increase in rpm is generally not required during normal operation.

(1) Set CTIS rotary selector switch (1) for correct driveline lockup and tire pressure to match anticipated driving conditions. See Table 1-28.

(2) Start truck (Para 2-15).

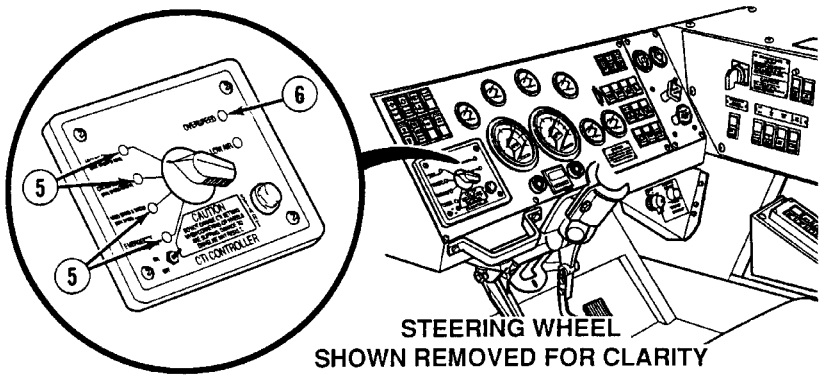
NOTE

CTIS may not engage properly if CTIS START button is pressed too quickly.

(3) Press and hold CTIS START button (2) on the controller for approximately one second to activate the CTIS system.

(4) Observe green lights (5) on controller to check system operation.

2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS) (CONT).



CAUTION

The CTIS rotary selector switch setting should always correspond to the lighted setting. If the light and switch positions do not match, the operator must take steps to correct the situation. Failure to comply may result in damage to equipment.

(a) A continuous green light (5) indicates the CTIS and driveline lockup are both in proper operating mode and CTIS pressure check/adjustment cycle has been completed.

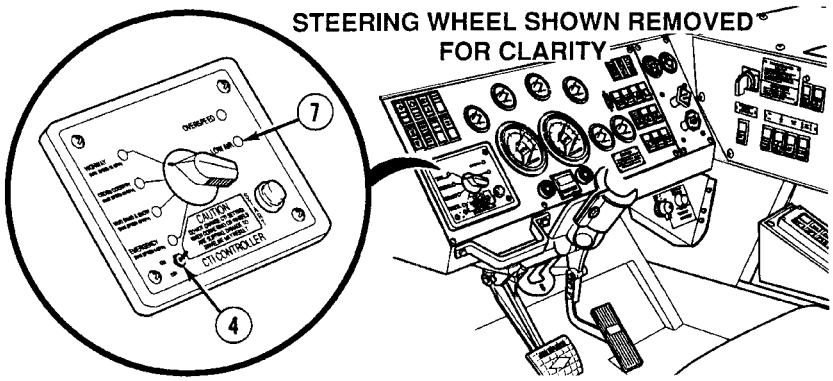
(b) A flashing green light (5) indicates the CTIS is in the process of checking/adjusting the tire pressure.

CAUTION

The CTIS increases tire inflation pressure when truck speed exceeds the allowable speed for each setting. When an increase in speed is required, maintain the lower speed until the tires are re-inflated to the correct pressure. Failure to comply may result in damage to equipment.

(c) A rapidly flashing green light (5) indicates the CTIS rotary selector switch and tire pressure do not match and requires the operator to take corrective action.

(d) The amber overspeed light (6) begins to flash when an overspeed condition has been present for one minute and continues to flash along with the green light until the new CTIS setting is reached.



(e) A solid red low air light (7) indicates the CTIS has turned off due to a low air pressure in the braking system.

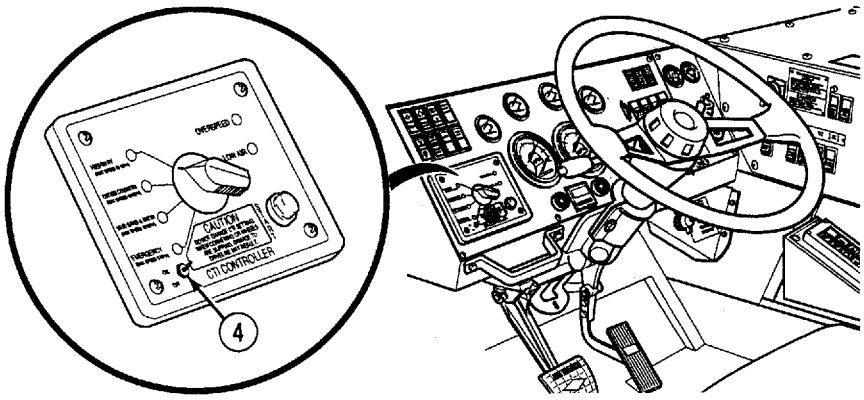
NOTE

The CTIS automatically checks for moderate to large leaks or air loss. This will safeguard against all of the tires going flat when one of the tires has blown and the CTIS is turned ON.

(f) If a moderate to large leak is detected after about 30 seconds, the red low air light (7) will flash to confirm the leak. Turn the CTIS ON/OFF switch (4) to OFF and test entire system for air leak.

1 If no leak is found, restart the CTIS. If the air leak is still present, the red low air light (7) will again flash after 30 seconds, only allowing time for searching leaky connections. This cycle for detecting leaks may be repeated many times.

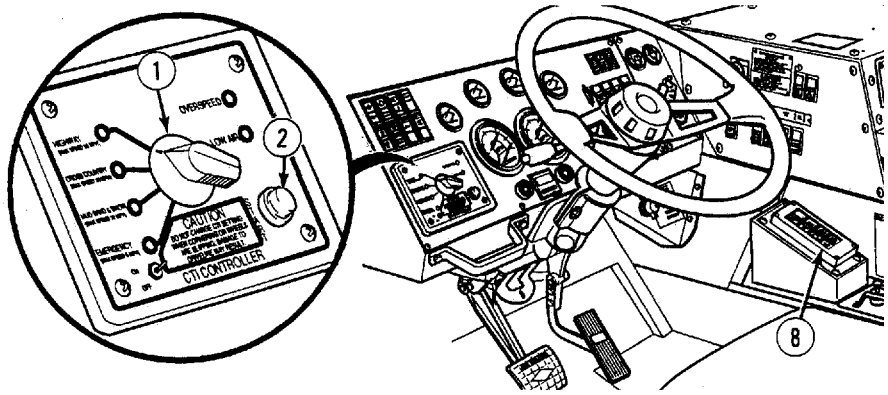
2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS) (CONT).



NOTE

- If the CTIS malfunctions, turn the ON/OFF switch to OFF, then to ON. This action will reset the controller and may eliminate the problem.
- With CTIS manually disabled, the truck can still be operated normally (as if the truck were not CTIS equipped) to complete mission before repairs are made.
- Intermittent manual ON/OFF operation of the CTIS system to inflate or deflate tires may still be available to the operator and can be used to complete mission before repairs are made.
- If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated (Para 2-57j).
- If a Class III oil leak develops from a wheel valve, turn CTIS ON/OFF switch to OFF position and complete the mission. Notify Unit Maintenance.

(5) If it becomes necessary to disable the CTIS, turn the CTIS ON/OFF switch (4) to OFF.



CAUTION

When using EMERGENCY position on CTIS, top speed should not exceed five mph (8 km/h) and distance travelled should not exceed five miles (8 km). Care must be exercised as steering response is limited due to full drive line lockup. Failure to comply may cause damage to equipment.

(6) When changing setting from EMERGENCY to any other CTIS setting, the truck must be stopped and drive line loading relieved.

(a) Stop truck.

(b) Set transmission range selector (8) to Neutral (N).

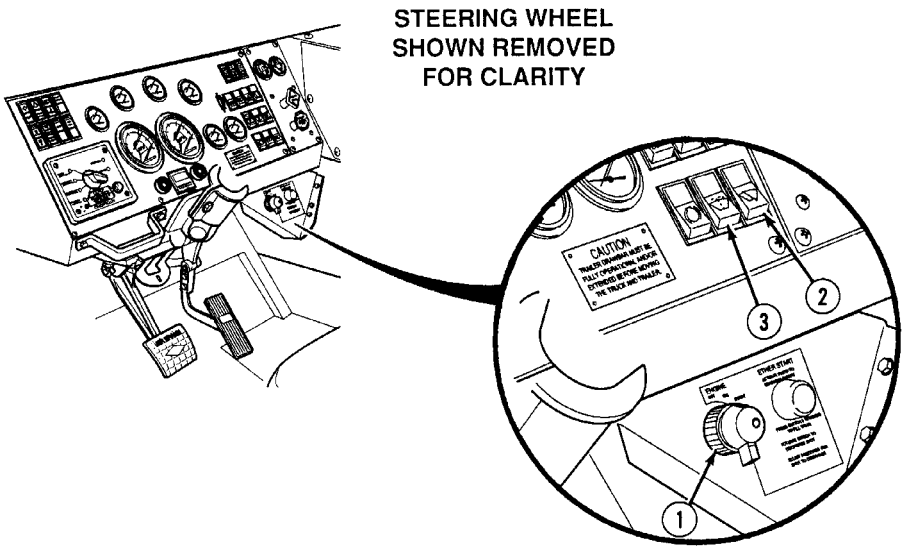
(c) Turn CTIS rotary selector switch (1) to new position and press START button (2) for one second to activate CTIS.

(d) Set transmission range selector (8) to Reverse (R).

(e) Back up approximately 5 to 10 ft. (1.5 to 3 m) to relieve driveline loading and then bring truck to stop.

(f) Press transmission range selector (8) to Neutral (N) and then to 3, 2 or 1 depending on ground conditions.

2-25. WINDSHIELD WIPERS.



a. Turn Engine ON/OFF/START switch (1) to ON position (Para 2-15).

b. Turn the Windshield Wipers ON/OFF.

(1) Press the WIPER switch (2) to middle position for low speed and down position for high speed.

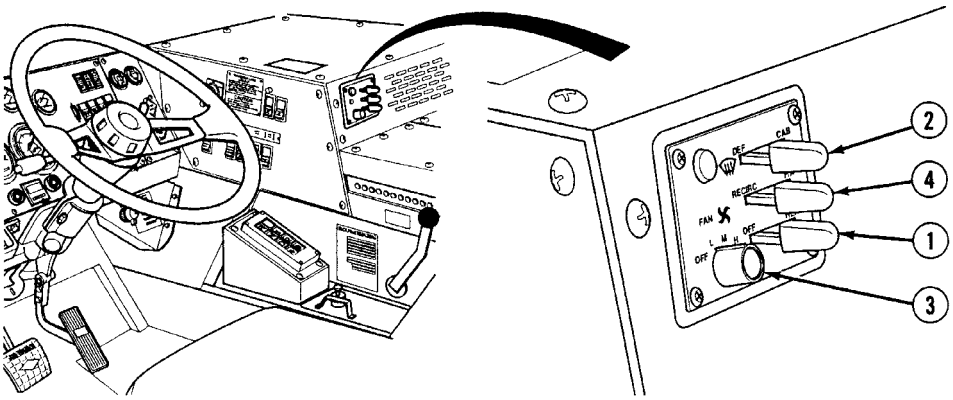
(2) Press the WIPER switch (2) to up position to stop windshield wipers.

c. Operate Windshield Washer.

(1) Press and hold the WASHER switch (3) down to spray cleaning fluid on windshield.

(2) Release the WASHER switch (3) to stop washer spray.

2-26. PERSONNEL HEATER.



a. Start truck (Para 2-15).

b. Turn Heater ON/OFF.

NOTE

Heater temperature is controlled by position of HEAT lever. Temperature will be very warm when HEAT lever is pushed all the way to the right. Temperature will go down as HEAT lever is pulled to the left.

(1) Push the HEAT control lever (1) to desired position.

(2) Push the DEFROST lever (2) to the right to send air to the floor of the cab.

(3) Set the FAN control switch (3) to LO, MEDIUM or HI airflow.

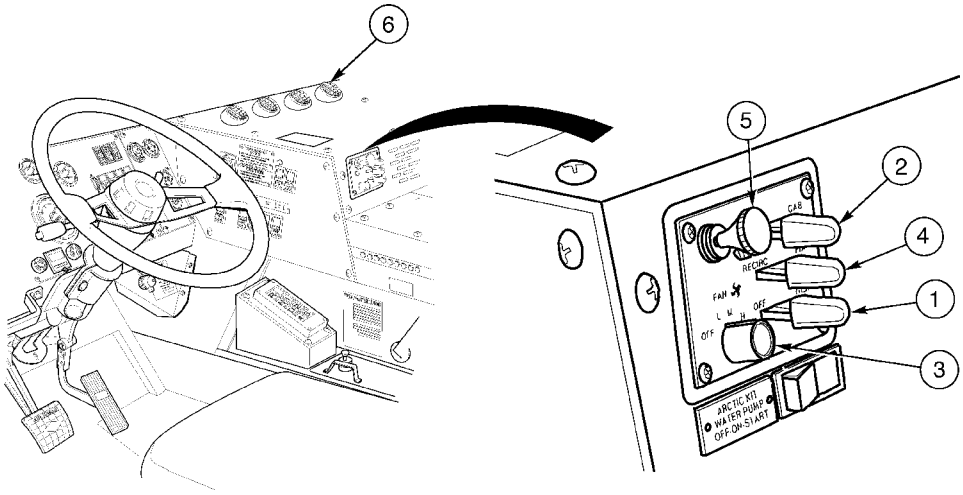
(4) Push the AIR control lever (4) to the right to add outside air for cab ventilation.

(5) Pull the AIR control lever (4) to the left if re-circulated air for the cab is desired.

(6) Pull the HEAT control lever (1) to the left to decrease heat.

(7) Set the FAN control switch (3) to OFF.

2-26. PERSONNEL HEATER (CONT).



c. Turn Windshield Defrost ON/OFF.

(1) Pull the DEFROST control lever (2) to the left to add more air flow to the windshield.

(2) Set the FAN control switch (3) to LO, MEDIUM, or HI position.

(3) Set the FAN control switch (3) to OFF.

d. Turn Cab Ventilator ON/OFF.

(1) Push the HEAT control lever (1) to OFF position.

(2) Push the AIR control lever (4) to RECIRC position.

(3) Push the DEFROST lever (2) to DEF position.

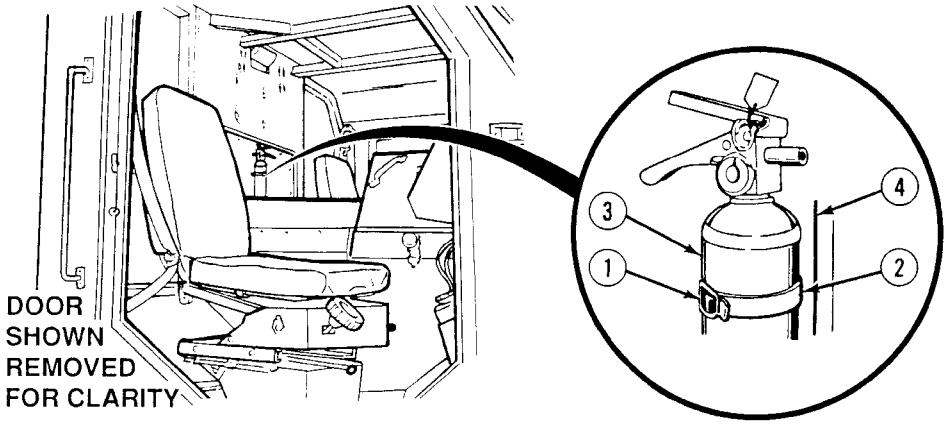
(4) Pull the cab ventilator knob (5) out (approximately 1.5 in. [4 cm]).

(5) Set the FAN control switch (3) to LO, MEDIUM, or HI position.

(6) Rotate four blower vents (6) for desired air flow.

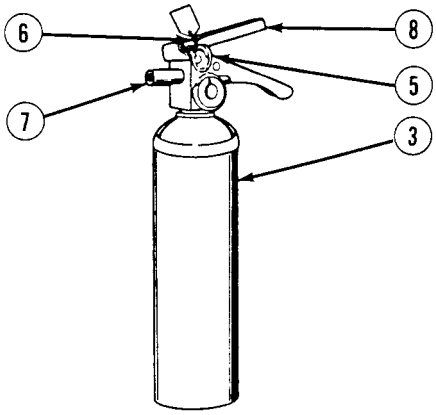
(7) Set the FAN control switch (3) to OFF.

2-27. FIRE EXTINGUISHER.



a. Release the clamp (1) and open strap (2).

b. Pull the fire extinguisher (3) straight out and off bracket (4).

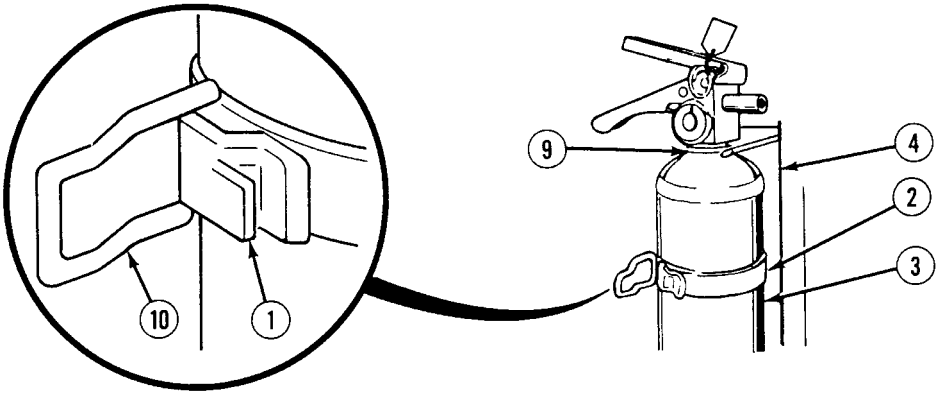


c. Hold the fire extinguisher (3) upright and pull safety pin (5) to break plastic tie (6).

d. Point nozzle (7) at base of fire.

e. Press down on stop lever (8) and spray in a side-to-side motion at base of fire.

2-27. FIRE EXTINGUISHER (CONT).



f. Replace the fire extinguisher after use.

g. Put the neck (9) of fire extinguisher (3) on bracket (4).

h. Put the clamp (1) on hook (10).

i. Push down on the clamp (1) to secure strap (2).

2-28. AUXILIARY EQUIPMENT.

a. Arctic Heater (Model A).

WARNING

CARBON MONOXIDE (EXHAUST GAS) CAN KILL YOU

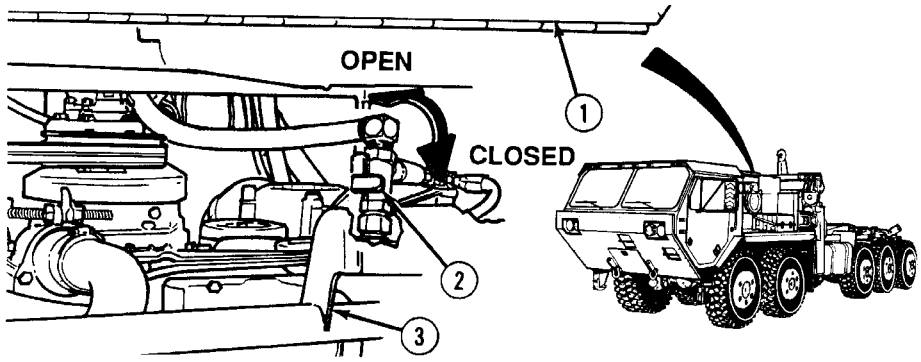
Carbon monoxide is a colorless, odorless, DEADLY POISONOUS gas and when breathed deprives body of oxygen and causes SUFFOCATION. Breathing air with carbon monoxide produces symptoms of headache, dizziness, loss of muscular control, a sleepy feeling, and coma. Permanent BRAIN DAMAGE or DEATH can result from severe exposure.

The following precautions MUST be followed to ensure personnel are safe whenever arctic heater or engine is operated for any purpose. Injury to personnel may result.

- DO NOT operate arctic heater or engine of truck in enclosed area without adequate ventilation.
- DO NOT drive any truck with inspection plates, cover plates, or engine compartment doors removed unless necessary for maintenance purposes.
- NEVER sleep in a truck when the heater is operating or the engine is idling.
- BE ALERT at all times during truck operation for exhaust symptoms. If either are present, IMMEDIATELY EVACUATE AND VENTILATE the area. Affected personnel treatment shall be: expose to fresh air; keep warm; DO NOT PERMIT PHYSICAL EXERCISE; if necessary, give artificial respiration as described in FM 21-11 and get medical attention.
- BE AWARE; neither the gas particulate filter unit nor field protection mask for nuclear-biological-chemical protection will protect you from carbon monoxide poisoning.

THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS GOOD VENTILATION

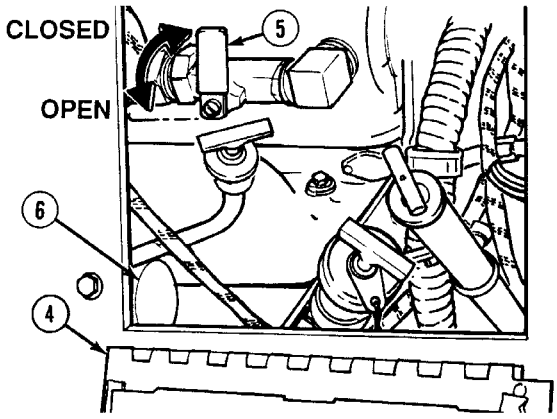
2-28. AUXILIARY EQUIPMENT (CONT).

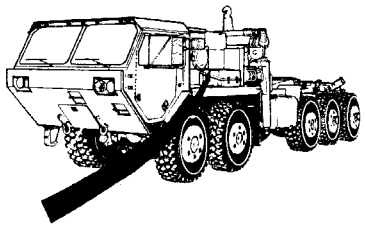


CAUTION

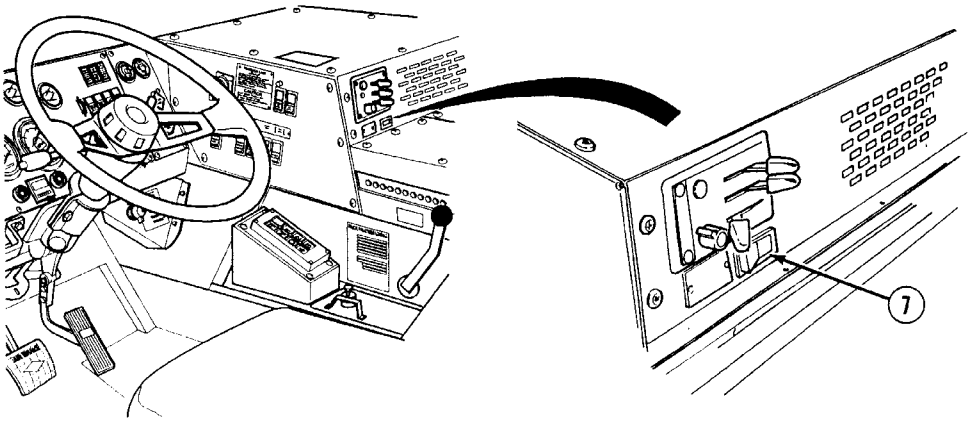
Both valves in Steps (1) and (2) must be open during arctic heater operation or damage to equipment may result.

(1) Open the engine access cover (1) and open valve (2) at front right thermostat housing (3). Close engine access cover (1).

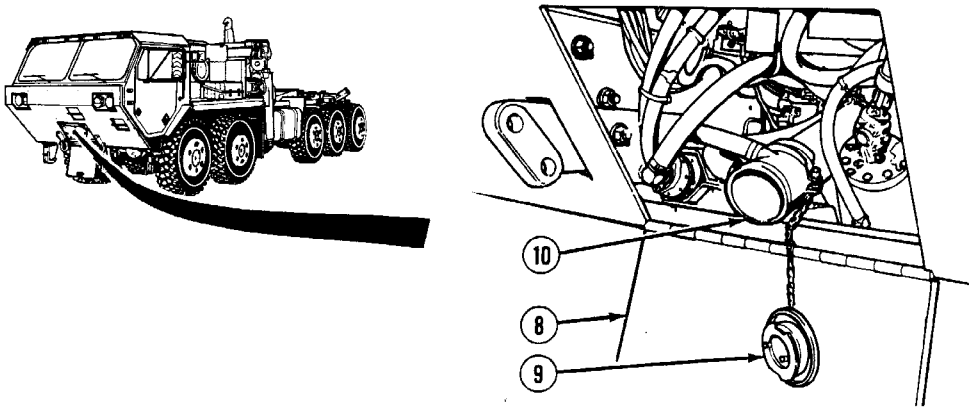




(2) Open the side access cover (4) and open valve (5) above starter (6). Close the cover (4).



(3) To run the coolant circulating pump from within cab, press the arctic heater switch (7) to the ON position.



(4) Open front access cover (8).

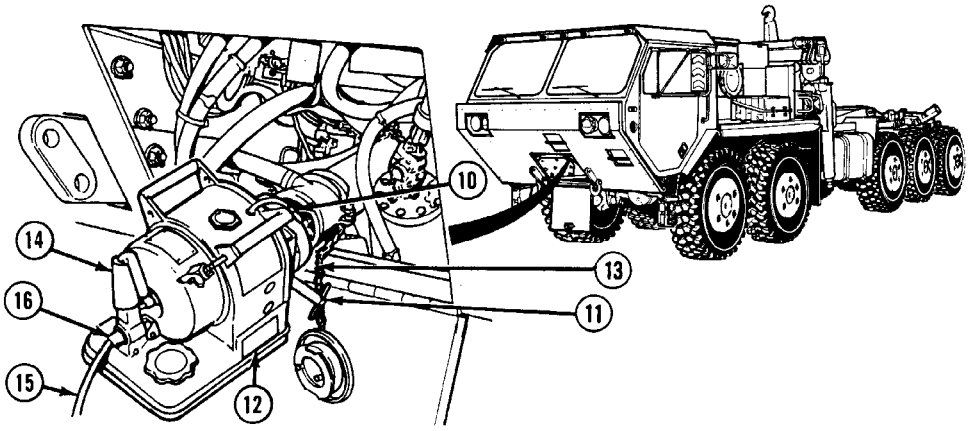
WARNING

Do not allow heated parts of arctic heater to contact hoses and wires of truck. Failure to comply could result in injury to personnel or damage to equipment.

(5) To install the arctic heater into water jacket:

(a) Remove the cover (9) from water jacket (10).

2-28. AUXILIARY EQUIPMENT (CONT).



(b) Turn wingnut (11) on arctic heater (12) counterclockwise to open.

(c) Check the gasket (13) for proper placement and for damage.

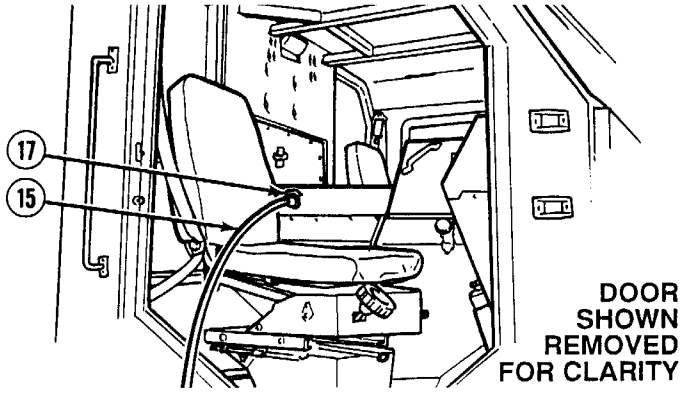
(d) Insert the arctic heater (12) into water jacket (10) with hand pump lever (14) in a vertical position.

(e) Tighten the wingnut (11) clockwise.

CAUTION

Battery voltage must be identical to voltage shown on hand pump lever or damage to equipment may result.

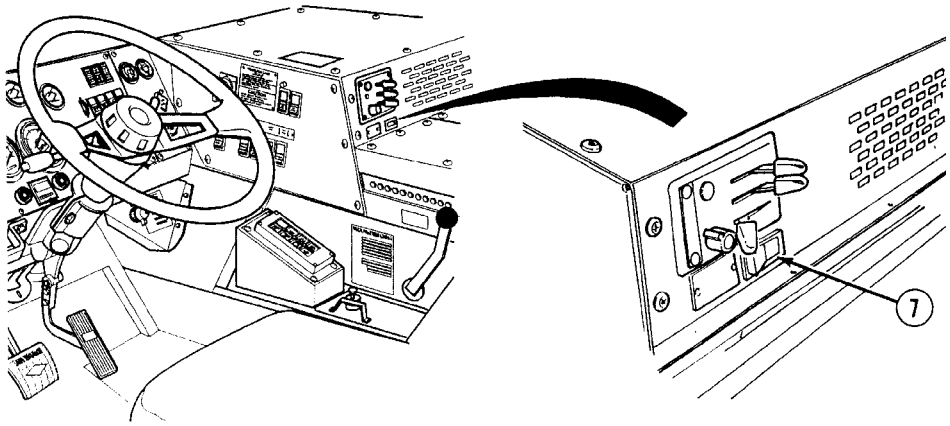
(f) Ensure heater (12) is set to 24 volts and plug cable (15) into starting cable connector (16) on arctic heater (12).



(g) Plug cable (15) into arctic heater receptacle (17) on tunnel panel inside cab (passenger side).

(6) To start and operate the arctic heater, refer to TM 9-8662.

(7) Operate the arctic heater for approximately 35 minutes to warm engine properly.



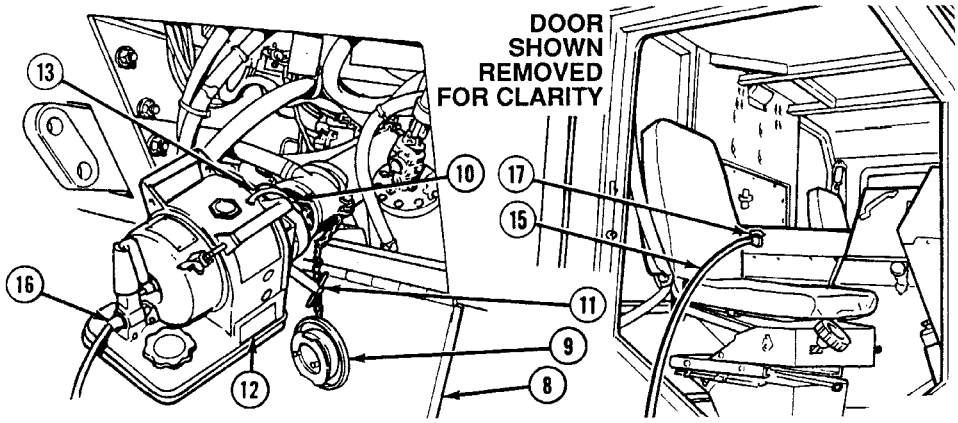
WARNING

Do not allow heated parts of arctic heater to contact hoses and wires of truck. Failure to comply could result in injury to personnel or damage to equipment.

(8) To remove heater from the water jacket:

(a) To shut down coolant circulating pump, press the arctic heater switch (7) to the OFF position.

2-28. AUXILIARY EQUIPMENT (CONT).



(b) Remove cable (15) from arctic heater receptacle (17) and starting cable connector (16).

(c) Loosen the wingnut (11).

WARNING

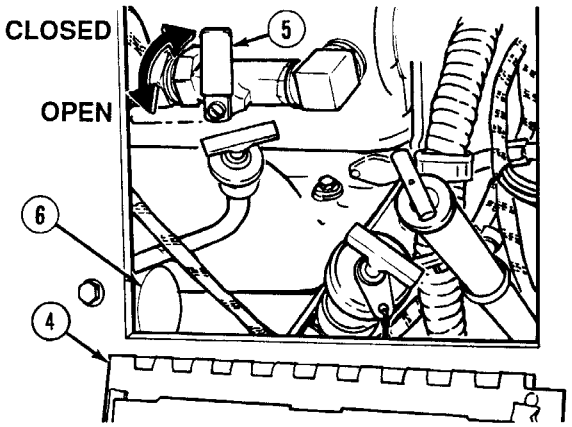
Do not touch exhaust section of arctic heater with bare hands; injury to personnel will result.

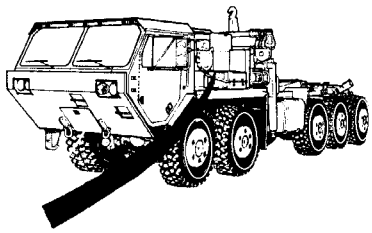
(d) Remove the arctic heater (12) with gasket (13) from water jacket (10).

(e) Install the cover (9) on water jacket (10).

(f) Turn the wingnut (11) clockwise to close.

(g) Close the front access cover (8).

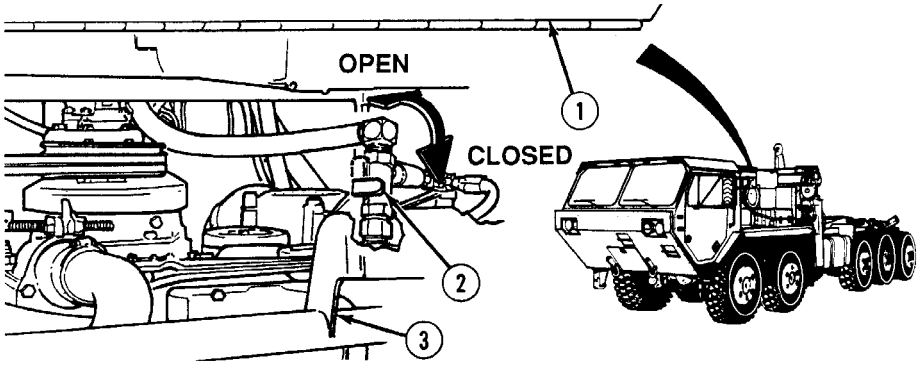




WARNING

Do not touch hot exhaust system with bare hands; injury to personnel will result.

(9) Open the side access cover (4) and close valve (5) above starter (6). Close the side access cover (4).



(10) Open the engine access cover (1) and close valve (2) at front right thermostat housing (3). Close the engine access cover (1).

a.1. Arctic Heater (Model B).

WARNING

CARBON MONOXIDE (EXHAUST GAS) CAN KILL YOU

Carbon monoxide is a colorless, odorless, DEADLY POISONOUS gas and when breathed deprives body of oxygen and causes SUFFOCATION. Breathing air with carbon monoxide produces symptoms of headache, dizziness, loss of muscular control, a sleepy feeling, and coma. Permanent BRAIN DAMAGE or DEATH can result from severe exposure.

The following precautions MUST be followed to ensure personnel are safe whenever arctic heater or engine is operated for any purpose. Injury to personnel may result.

- DO NOT operate arctic heater or engine of truck in enclosed area without adequate ventilation.
- DO NOT drive any truck with inspection plates, cover plates, or engine compartment doors removed unless necessary for maintenance purposes.
- NEVER sleep in a truck when the heater is operating or the engine is idling.
- BE ALERT at all times during truck operation for exhaust symptoms. If either are present, IMMEDIATELY EVACUATE AND VENTILATE the area. Affected personnel treatment shall be: expose to fresh air; keep warm; DO NOT PERMIT PHYSICAL EXERCISE; if necessary, give artificial respiration as described in FM 21-11 and get medical attention.
- BE AWARE; neither the gas particulate filter unit nor field protection mask for nuclear-biological-chemical protection will protect you from carbon monoxide poisoning.

THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS GOOD VENTILATION

- The arctic heater must be OFF when filling any fuel tanks on vehicle.
- Attempting to operate heater with frozen or slushy coolant could cause a coolant hose to burst or blow off heater resulting in engine damage and or personal injury. Make sure that a proper mixture of water and antifreeze is used. Refer to the heater manual for further information.

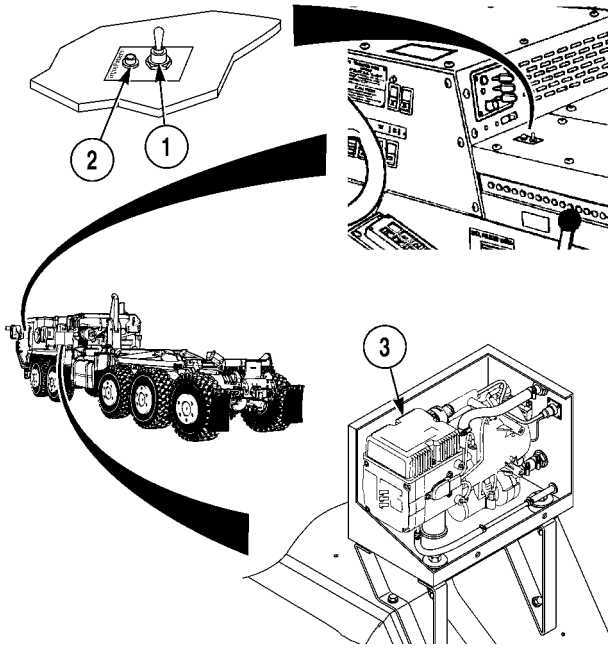
2-28. AUXILIARY EQUIPMENT (CONT).

CAUTION

- Do not attempt to operate arctic engine heater if arctic engine heater fails to start during normal startup, or shutdown occurs during normal operation. System shutdown may indicate an arctic engine heater system fault. Failure to comply may cause system lockout.
- Do not operate arctic engine heater if arctic engine heater light flashes intermittently during normal operation. Arctic engine heater indicator light flashing indicates an arctic engine heater system fault. Failure to comply may cause system lockout.

NOTE

- The arctic engine heater will attempt to start two times per start cycle. After the second failed start attempt, the arctic engine heater will not operate until the arctic engine heater on/off switch is turned OFF and back ON.
- If arctic engine heater flame out occurs during operation, arctic engine heater will attempt one restart. If unsuccessful, arctic engine heater will shutdown.
- During operation, arctic engine heater continually monitors input voltage. If the arctic engine heater input voltage decreases below (20 V) or increases above (30 V), arctic engine heater will automatically shutdown.



(1) To start arctic engine heater, place arctic engine heater on/off switch (1) in ON position.

(2) Observe arctic engine heater indicator light (2) for steady illumination.

(3) Observe arctic engine heater (3) for proper operation.

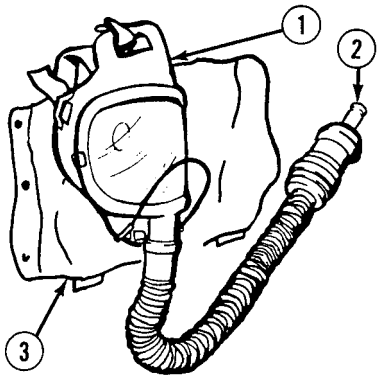
(4) Operate arctic engine heater (3) for 35 minutes to warm engine.

(5) After 35 minutes, start engine (Para 2-15).

(6) After engine is started, place arctic engine heater on/off switch (1) in OFF position, to shutdown arctic engine heater.

2-28. AUXILIARY EQUIPMENT (CONT).

b. Gas Particulate Filter Unit (GPFU).



WARNING

- If NBC exposure is suspected, all air filter media should be handled by personnel wearing protective equipment. Consult your unit NBC Officer or NBC NCO for appropriate handling or disposal procedures.
- Protective mask and filter unit will not protect against carbon monoxide.

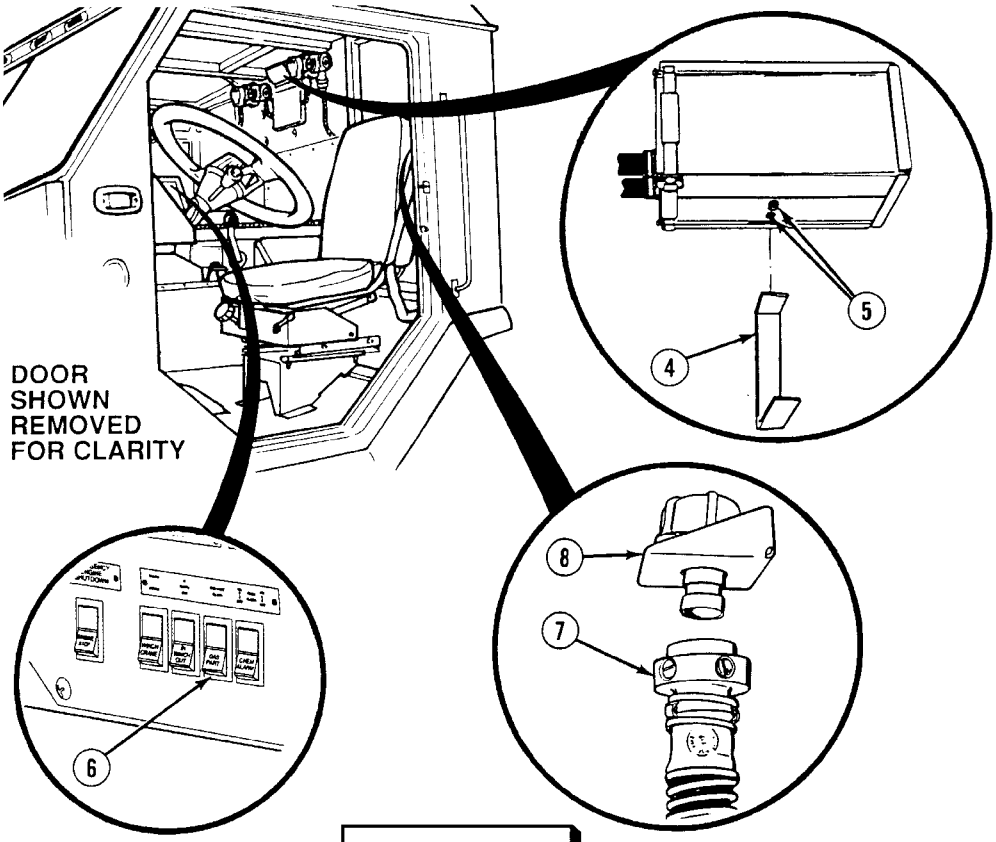
NOTE

- Perform Steps (1) through (9) only when under Nuclear, Biological, or Chemical (NBC) attack or when ordered to do so.
- For detailed information concerning protective mask refer to TM 3-4240-280-10.
- There are two M-3 heaters, hoses and air duct sockets.

(1) Remove protective mask (1) and canister (2) from pouch (3).

(2) Put on protective mask (1).

(3) Clear and seal protective mask (1).



WARNING

Spring clip on filter assembly air intake must be pulled so intake holes are open for gas particulate filter system to work. Failure to pull out clip may result in death to personnel.

NOTE

Spring clip must be repositioned on filter assembly air intake so intake holes are open for gas particulate filter system to work. Clip is repositioned through bottom of bracket.

(4) Pull down on spring clip (4) to uncover intake holes (5).

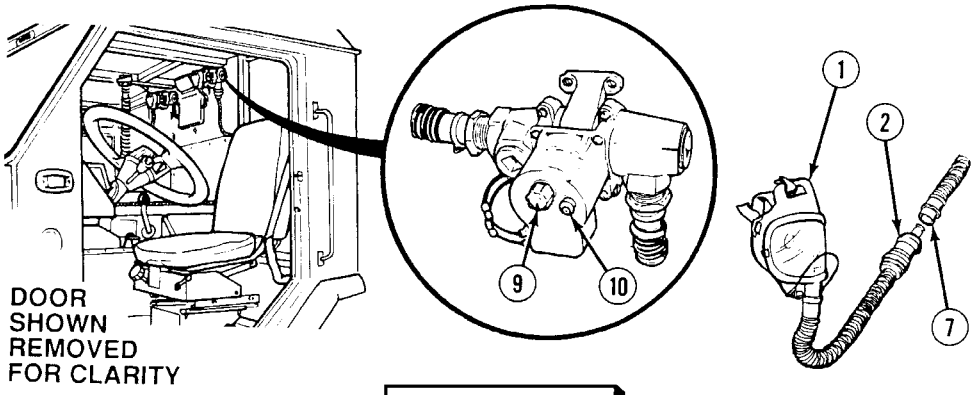
(5) Set gas particulate filter switch (6) to ON.

NOTE

One mount is located to left of drivers seat at roof brace. Second mount is located on middle cab roof brace to left of passenger seat.

(6) Disconnect two air duct hose breakaway sockets (7) from mounts (8).

2-28. AUXILIARY EQUIPMENT (CONT).



WARNING

Under arctic conditions, danger of frostbite exists. Mask can be put on, but air duct hose socket should not be connected to mask canister until M-3 heater has been on for 15 minutes. Failure to follow proper procedures may cause serious injury to personnel.

(7) Connect two air duct hose breakaway sockets (7) to canisters (2) of protective masks (1) and breathe through masks.

NOTE

- There are two M-3 heaters. Both are the same.
- Heater indicator light will go off and on during normal heater operation.

(8) If air is too cold to breathe comfortably, turn knob (9) clockwise until heater indicator (10) lights. To adjust temperature:

(a) Turn knob (9) clockwise for warmer air.

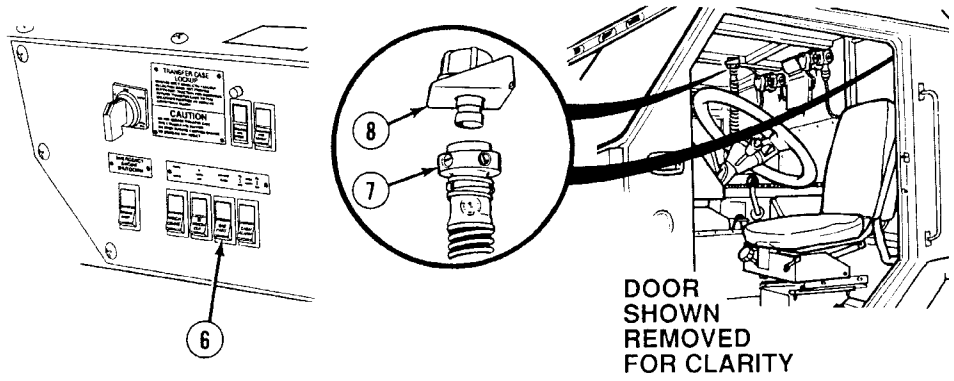
(b) Turn knob (9) counterclockwise for cooler air.

(9) When heater is no longer needed, turn control knob (9) counterclockwise to OFF position.

NOTE

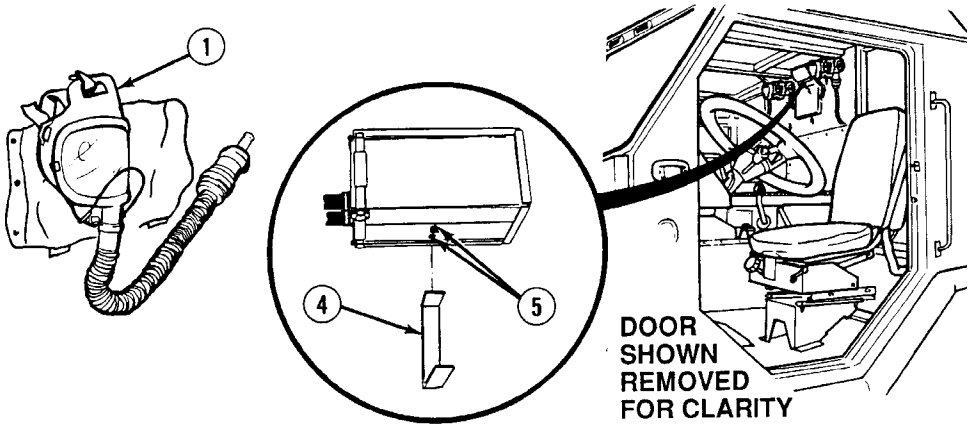
Perform Steps (10) through (14) only when NBC attack is over or when ordered to do so.

(10) When protective masks (1) are no longer needed, disconnect air duct hose breakaway sockets (7) from canisters (2).



(11) Connect two air duct hose breakaway sockets (7) to mounts (8).

(12) Press gas particulate filter (6) switch to OFF.



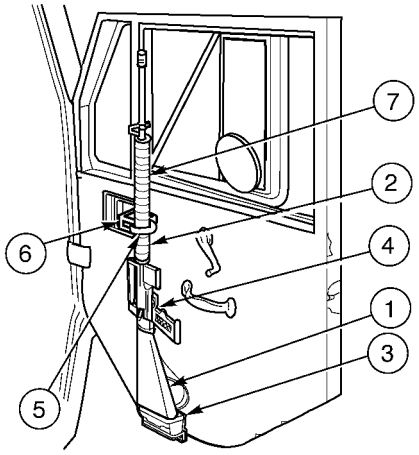
(13) Push up on spring clip (4) to cover intake holes (5).

(14) Remove and stow protective mask (1).

2-28. AUXILIARY EQUIPMENT (CONT).

c. Rifle Mount.

(1) Stow rifle in stowage mount.



NOTE

Vehicle may be equipped with door or cab rifle mount. Door mount is shown, cab mount is similar.

(a) Position butt (1) of M-16 rifle (2) in lower mount (3) with trigger guard (4) toward rear of truck.

(b) Pull the handle (5) of top mount (6) toward middle of cab.

(c) Place the heat guard (7) of M-16 rifle (2) in top mount (6).

(d) Push the handle (5) across heat guard (7).

(e) Check that M-16 rifle (2) is held tightly.

(2) Remove rifle from stowage mount.

(a) Pull the handle (5) of top mount (6) down and toward middle of cab.

(b) Remove the heat guard (7) of M-16 rifle (2) from top mount (6).

(c) Remove the butt (1) of M-16 rifle (2) from lower mount (3).

d. Chemical Alarm: Refer to TM 3-6665-225-12 for operating instructions.

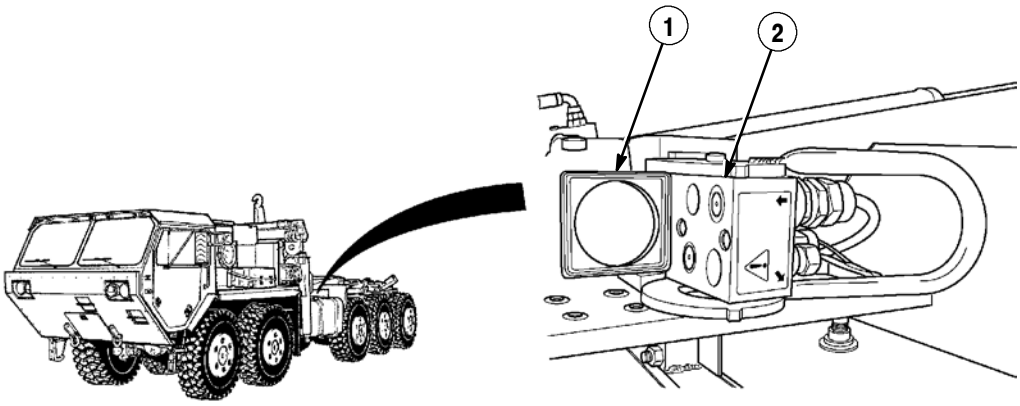
e. Decontamination Unit: Refer to TM 3-4230-214-12&P for operating instructions.

f. Radio: Refer to TM 11-5820-498-12 for operating instructions.

g. Machine Gun Mount: Refer to TM 9-1005-245-14 for operating instructions.

h. Power Interface Kit.

(1) Connect to power interface kit.



WARNING

- Hydraulic fluid is under great pressure. Engine on truck must be shut off while connecting hydraulic lines. Failure to do so could cause serious injury or death to personnel.
- Hot hydraulic oil may cause serious burns.

CAUTION

To prevent hydraulic contamination, keep hydraulic quick disconnects clean or damage to hydraulic system may result.

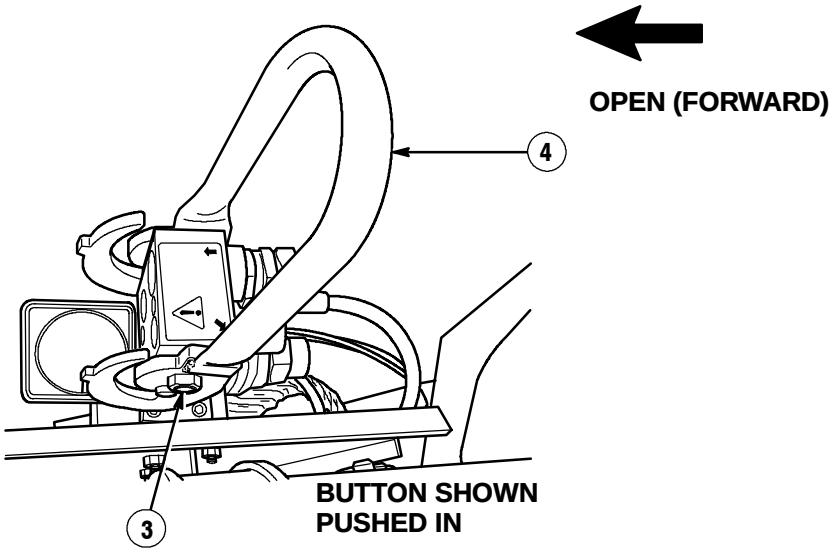
NOTE

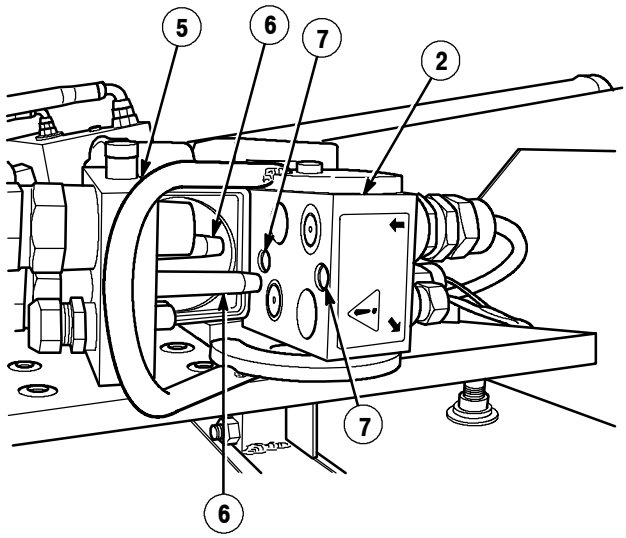
Air, electric, and hydraulic connections are shown. Not all modules will require all three hook-ups.

(a) Shut OFF engine (Para 2-23).

(b) Open dust cover (1) on female quick disconnect (2).

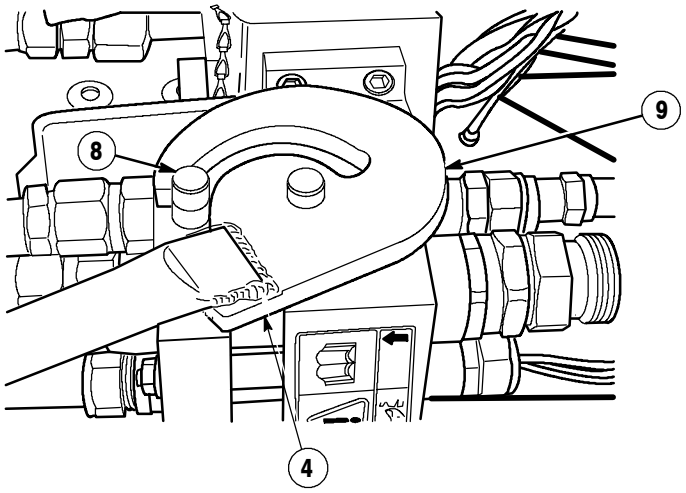
2-28. AUXILIARY EQUIPMENT (CONT).



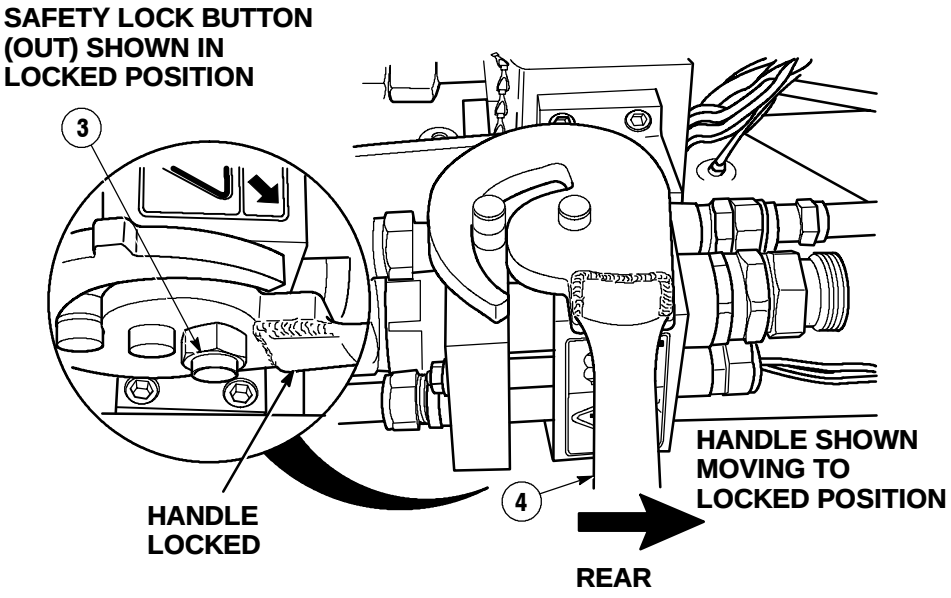


(c) Push in safety lock button (3) and rotate lever (4) to open (forward) position.

(d) Position male quick disconnect (5) with female quick disconnect (2) and slide two guide pins (6) into guide pin slots (7).



(e) Align pins (8) in hook (9) of lever (4).



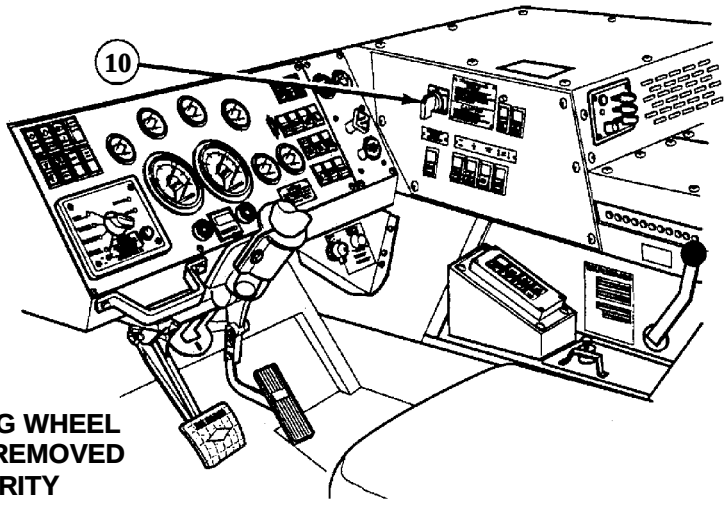
NOTE

There is not a power interface kit ON/OFF switch. The power interface kit is operative when lever is rotated to the locked position connecting male quick disconnect to female quick disconnect with safety lock button locked and when hydraulic selector switch is set to CRANE/SRW.

(f) Rotate lever (4) to locked (rear) position until safety lock button (3) locks.

2-28. AUXILIARY EQUIPMENT (CONT).

(g) Start engine (Para 2-15).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(h) Set the hydraulic selector switch (10) to CRANE/SRW position.

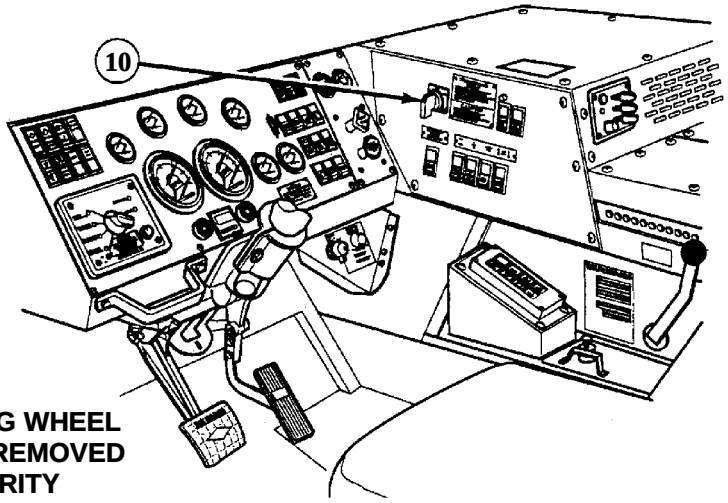
(2) Disconnect from Power Interface Kit.

WARNING

- Hydraulic fluid is under great pressure. Engine on truck must be shut off while connecting hydraulic lines. Failure to do so could cause serious injury or death to personnel.
- Hot hydraulic oil may cause serious burns.
- When disconnecting block, the hydraulic fluid will be under great pressure. Ensure to have a firm grip on female quick disconnect and lever to avoid an uncontrolled disconnect that could cause injury to personnel and damage to equipment.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

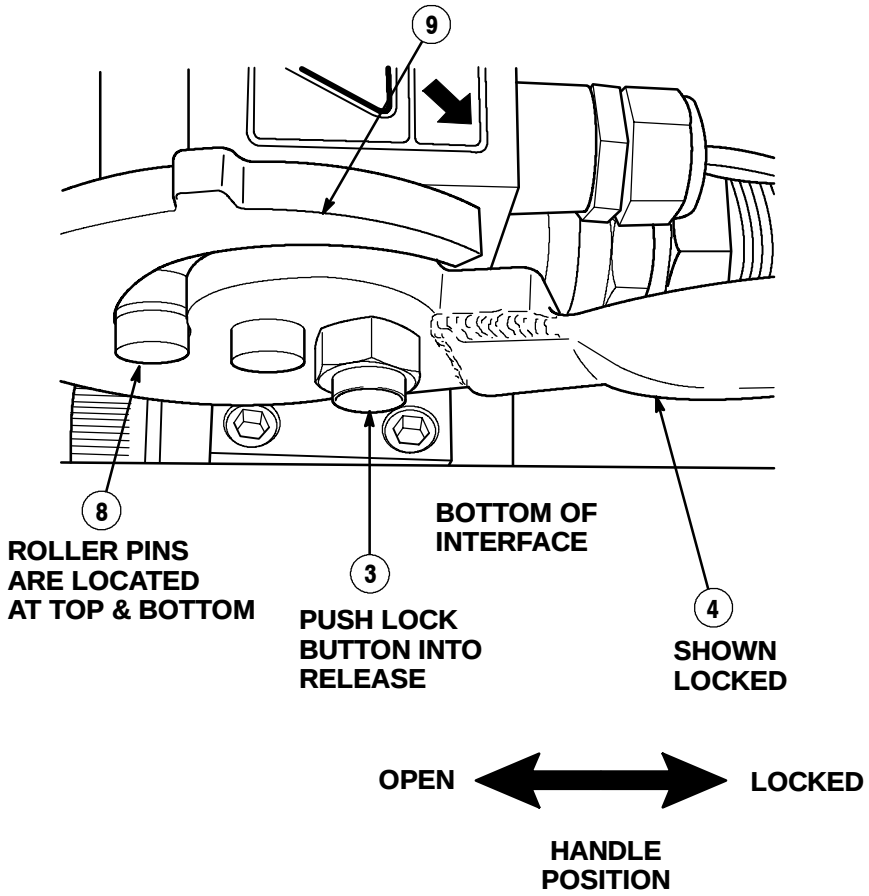
(a) Set the hydraulic selector switch (10) in OFF position.

(b) Shut OFF engine (Para 2-23).

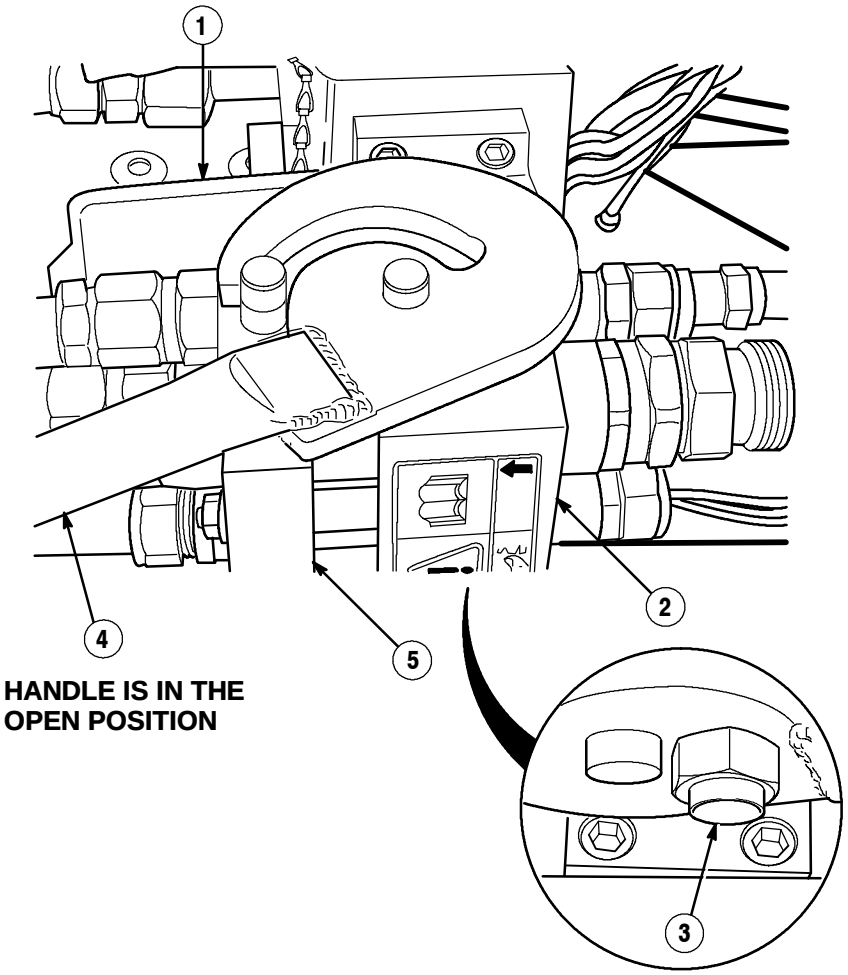
2-28. AUXILIARY EQUIPMENT (CONT).

NOTE

Male quick disconnect will be loose when pins clear the hook of lever.



(c) Push in safety lock button (3) and rotate lever (4) to the open (forward) position to release pins (8) from the hook (9) of lever (4).



HANDLE IS IN THE OPEN POSITION

(d) Remove male quick disconnect (5) from female quick disconnect (2) and position out of way.

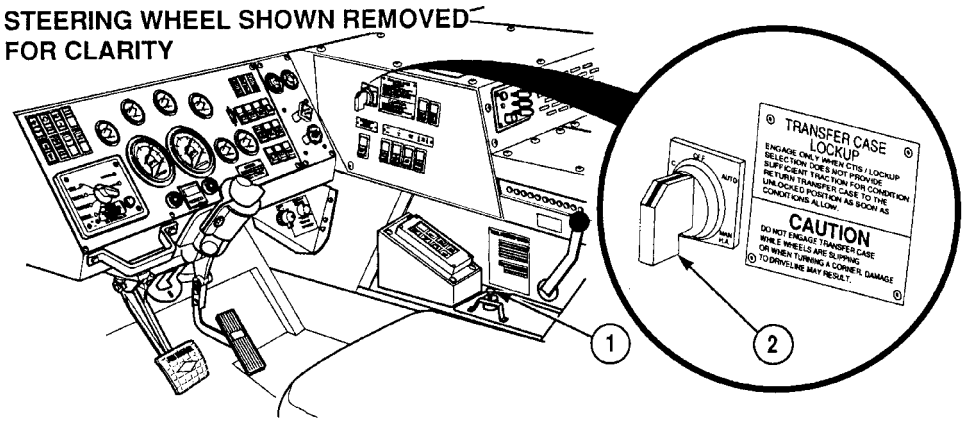
(e) Close dust cover (1) on female quick disconnect (2).

(f) Rotate lever (4) to locked (rear) position until safety lock button (3) locks.

END OF TASK

2-29. LOAD HANDLING SYSTEM (LHS).

a. Controls and Indicators.



CAUTION

- Before starting any LHS operations, clean all operating components of snow, ice, sand or mud or damage to equipment may result.
- Before starting any LHS operations, adjust extension mirror to monitor LHS operations or damage to equipment may result.
- If terrain is deeply rutted, soft soil, etc., mud flaps must be pinned up before beginning LHS operations or damage to mud flaps may result.
- If LHS had previously been used in Manual Mode and not completely stowed in Auto Mode, the hook arm cylinders must be completely extended or the LHS must be completely stowed using Auto Mode before the flatrack can be loaded. Failure to comply may result in damage to the truck and flatrack.

(1) Joystick (1) controls operations of loading (LOAD) and unloading (UNLOAD) of flatracks.

(2) Hydraulic Selector Switch (2).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(a) OFF POSITION: Joystick (1) not operational (LHS transit mode).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(b) AUTO POSITION: For normal pick-up and off-loading sequence of flatrack.

(c) MANUAL HOOK ARM (MAN H.A.) POSITION: For picking-up and off-loading use on trailer, docks and in event of failure of automatic hook arm electronic circuits.

(d) MANUAL MAIN FRAME (MAN M.F.) POSITION: For picking-up and off-loading on trailers, docks and in the event of failure of automatic main frame electronic circuits.

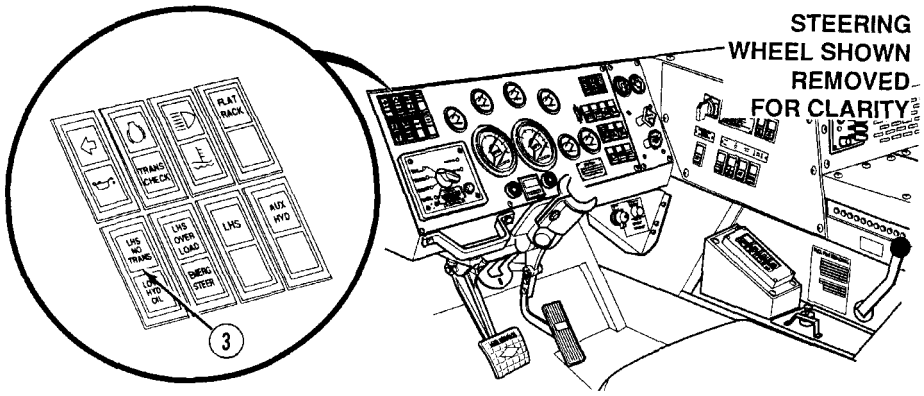
(e) MANUAL TRANSIT (MAN TRANS) POSITION: Used when automatic circuits have failed and MAN H.A. and MAN M.F. are operated. This position must be selected if truck is to travel.

(f) CRANE/SRW: Used to switch hydraulic power to either crane or winch, in this position the LHS free flow valve is closed and the LHS section of the hydraulic system is isolated.

(3) Warning Lights.

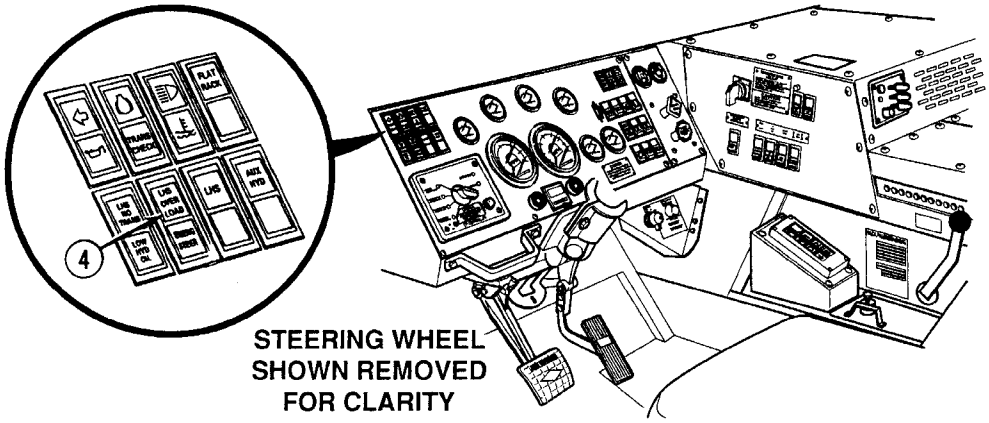
CAUTION

After loading operations using CHU kit and container and the LHS NO TRANSIT indicator goes off, operator must release the joystick from the LOAD position. Failure to release the joystick may cause LHS OVER LOAD indicator to illuminate and hydraulic cylinders to remain active, forcing a temporary bow in the LHS frame, resulting in contact between LHS and container.



(a) LHS No Transit (3) illuminates when LHS is not correctly stowed in transport position.

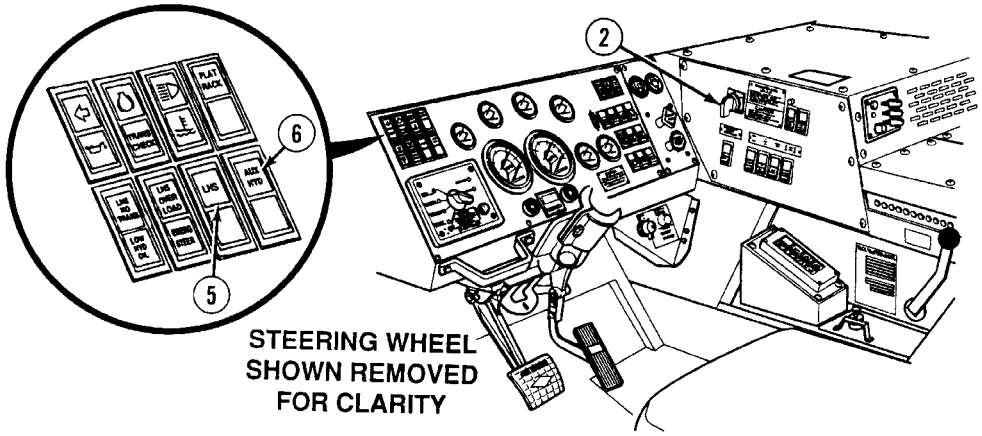
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

To reset LHS Overload, return load to start position and release joystick switch.

(b) LHS Overload light (4) (yellow) is located on the driver's dash panel and illuminates whenever main hydraulic relief valve is opened during loading or unloading. When light illuminates, driver will be warned that LHS has reached an overload condition or that hydraulic system is lifting very near maximum capacity. Overload light will come on any time main relief valve is cracked open; therefore, load or unload operation may not come to a complete stop, but light will come on momentarily. This situation would indicate that system is lifting near maximum capacity. If the LHS is overloaded, the light illuminates and the system is automatically blocked out. Offload/onload flatrack and attempt second operation. If, during this second attempt, the LHS shuts down, stop operation and redistribute weight or reduce payload before attempting load or unload.



CAUTION

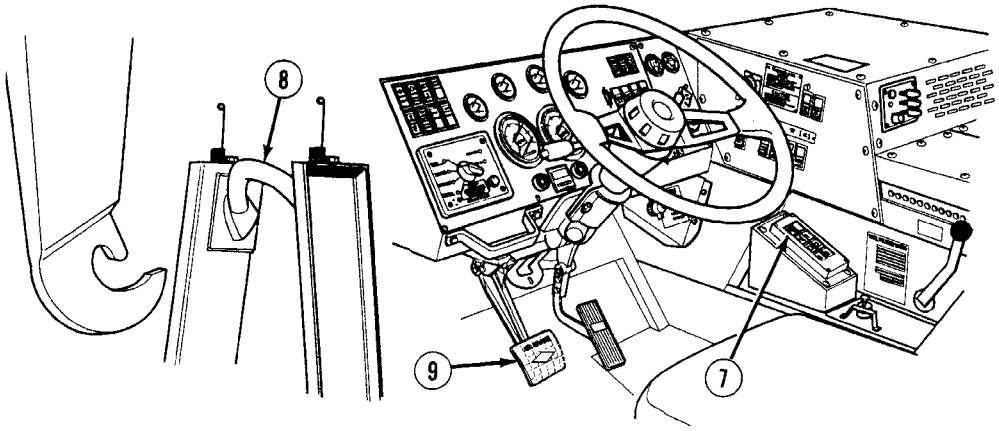
Overload protection system on PLS protects LHS and flatrack from structural damage during loading or unloading. This system does not protect truck chassis from being overloaded by means of a crane, forklift, or excessively loaded flatracks. Truck chassis is designed to carry an evenly distributed 16.5 ton (14,982 kg) payload. Operator is responsible to know what payload weighs.

(c) LHS (5): Illuminates when rotary hydraulic selector switch (2) is in positions AUTO, MAN H.A., or MAN M.F.

(d) Auxiliary Hydraulics (6): Illuminates when hydraulic selector switch (2) is in CRANE/SRW position.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

b. Picking Up a Flatrack in Auto Mode.



CAUTION

If LHS had previously been used in Manual Mode and not completely stowed in Auto Mode, the hook arm cylinders must be completely extended or the LHS must be completely stowed using Auto Mode before the flatrack can be loaded. Failure to comply may result in damage to the truck and flatrack.

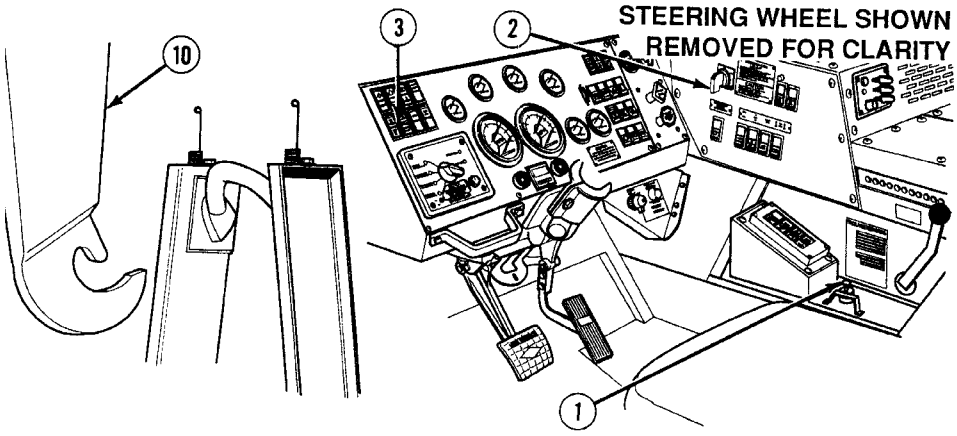
(1) Start truck (Para 2-15).

NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1,500 rpm to reduce loading and unloading times.

(2) Set transmission range selector (7) to Reverse (R) and back truck up to flatrack. Stop at approximately five ft. (1.5 m) from hook-bar (8). Check for overhead obstructions and firmness of the ground.

(3) Apply service brake pedal (9) and set transmission range selector (7) to Neutral (N).



WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. two in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

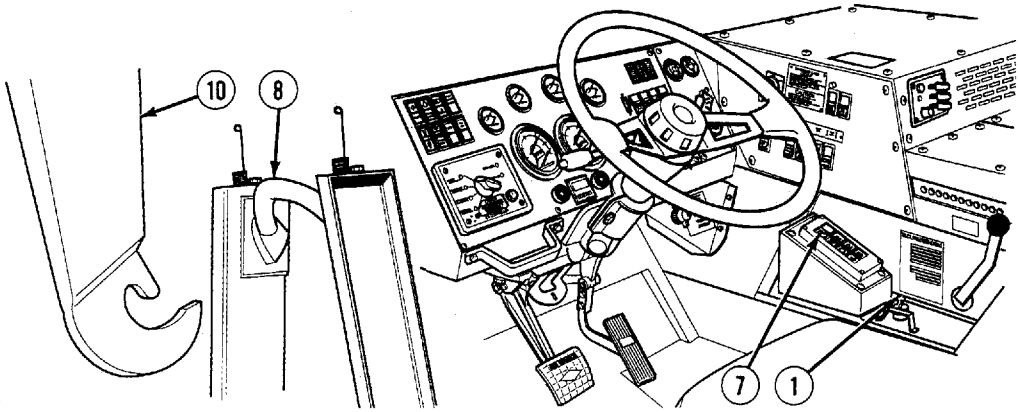
CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(4) Turn hydraulic selector switch (2) to AUTO.

(5) Move joystick (1) to UNLOAD. Lift-hook (10) will raise and begin to move rearwards. LHS NO TRANS lamp (3) will illuminate to indicate hook arm is up and load lock has been cleared.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

To fully view lift-hook relation to hook-bar, it may be necessary to observe position from outside the cab.

(6) Continue to unload until lift-hook (10) has moved to below level of flatrack hook-bar (8).

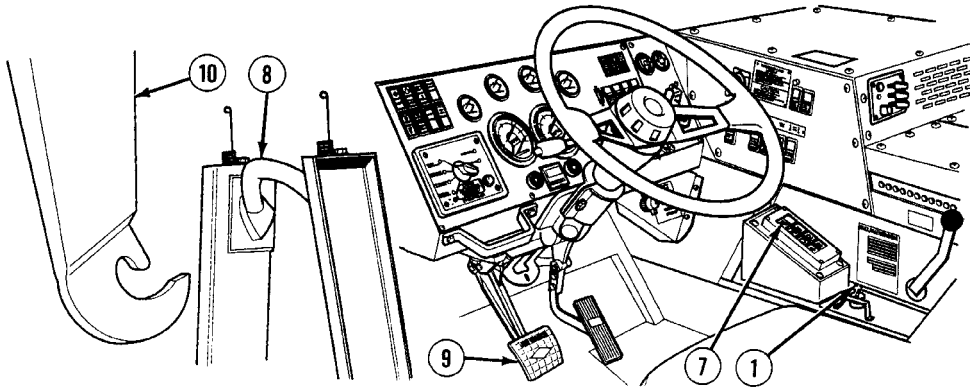
(7) Release joystick (1).

(8) Set the transmission range selector (7) to Reverse (R) and back truck up to flatrack, aligning truck and flatrack as straight as possible with lift-hook (10) to middle of hook-bar (8) until lift-hook (10) contacts hook-bar. Be sure lift-hook tip is positioned below bottom of hook-bar (8).

CAUTION

Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

(9) Move the joystick (1) to LOAD to raise lift-hook (10) and engage hook-bar (8).



(10) If lift-hook (10) fails to engage the hook-bar (8):

(a) Release the joystick (1).

(b) Set the transmission range selector (7) to Drive (D), release service brake pedal (9) and move truck forward to clear flatrack.

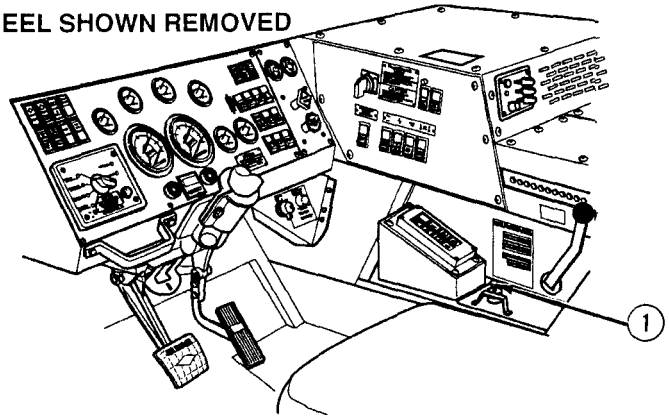
(c) Move the joystick (1) to UNLOAD until lift-hook (10) is below level of hook-bar (8).

(d) Repeat Steps (6) through (9).

(11) When correctly engaged, set the transmission range selector (7) to Neutral (N) and release service brake pedal (9).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

STEERING WHEEL SHOWN REMOVED FOR CLARITY



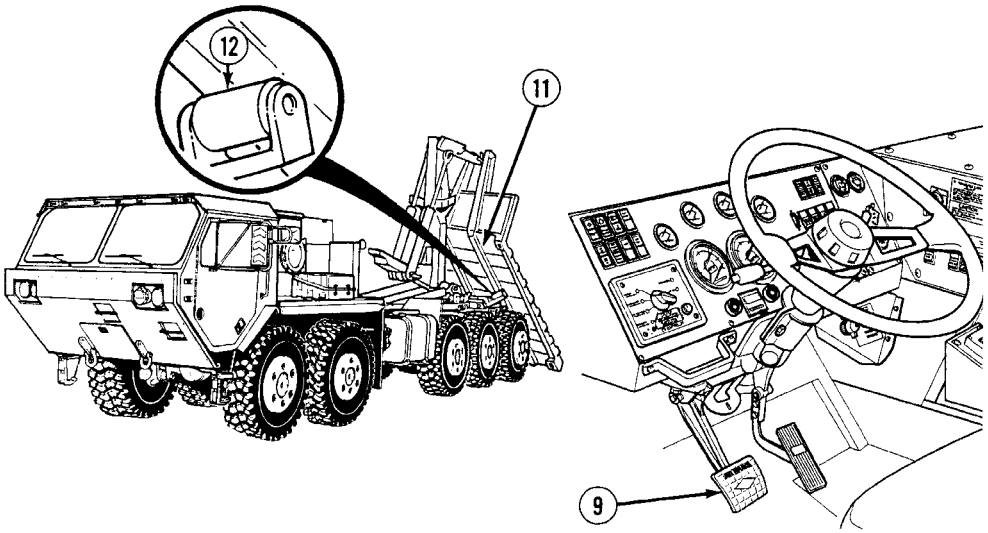
WARNING

When loading or unloading flatracks on uneven ground (side slope or downgrades up to 10 degrees), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

CAUTION

- If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should determine if payload is evenly distributed on flatrack or if flatrack load exceeds 16.5 tons (14,972 kg). If any of these conditions exist, operator must redistribute or reduce the payload or damage to equipment may occur.
- Load must be evenly distributed on the pallet. Uneven load distribution may cause LHS Overload indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.
- If LHS overload lamp illuminates and, normal operation has stopped. Return load to original position and redistribute or reduce payload weight or equipment damage may occur.
- Ensure that parking brake is not applied before starting load sequence or damage to equipment may occur.

(12) Move joystick (1) to LOAD, allowing truck to be pulled under flatrack.



WARNING

Ensure that flatrack runners contact LHS rear rollers correctly. Failure to contact flatrack runners correctly could result in serious injury or death to personnel and damage to equipment.

NOTE

Overload warning light may illuminate when lifting flatrack from unusual conditions.

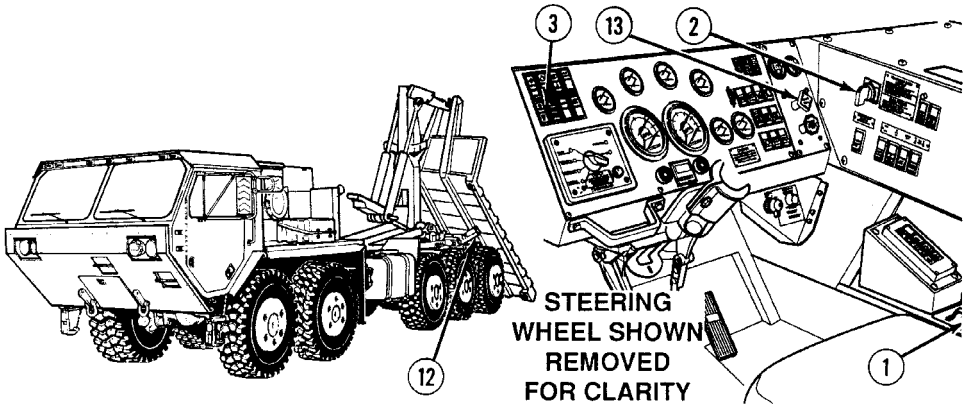
(13) As load is lifted, truck will be pulled under flatrack. Some steering wheel adjustment may have to be made to ensure that flatrack runners (11) will contact rear rollers (12).

CAUTION

Reduce engine speed to idle before flatrack main rails contact rear rollers or damage to flatrack may result.

(14) As flatrack contacts rear rollers (12), reduce engine speed and apply service brake pedal (9).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

If flatrack is being loaded in soft soil conditions, perform Steps (14) a through c, then continue with Step (15).

(a) Release joystick (1). Set hydraulic selector switch (2) to MAN H.A.

(b) Move joystick (1) to LOAD until flatrack is approximately 2 ft. (0.61 m) off the ground. Release joystick.

(c) Set hydraulic selector switch (2) to AUTO. Resume normal AUTO operations.

NOTE

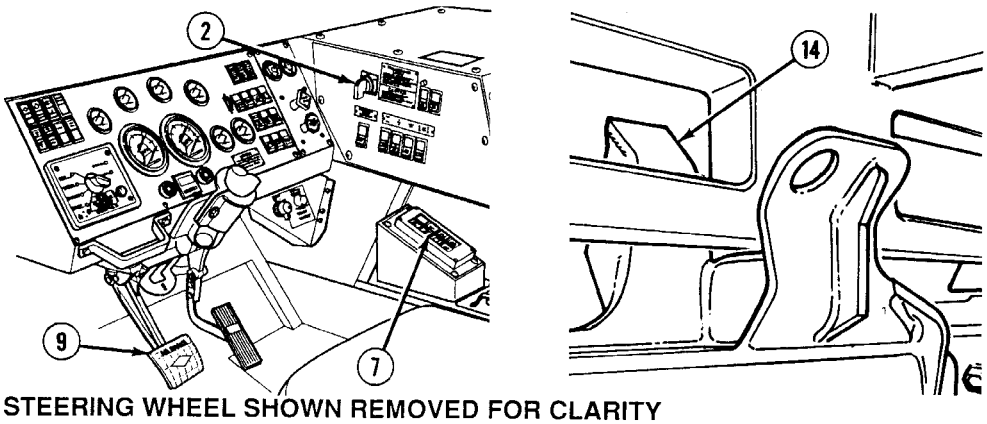
Engine speed will require increasing and decreasing in the following steps to facilitate performance.

(15) After flatrack contacts rear rollers (12), increase engine speed to approximately 1500 rpm until flatrack is nearly loaded. Reduce engine speed to idle.

(16) Continue loading until engage flatrack is fully loaded and LHS NO TRANS lamp (3) extinguishes.

(17) Release joystick (1).

(18) Apply parking brake (13).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

If flatrack is not engaged in load locks, raise flatrack slightly and lower again. Flatrack should set completely and engage load locks.

(19) Inspect that both load locks (14) have engaged and flatrack is completely down on truck.

CAUTION

- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.
- Hydraulic selector switch must be in OFF position before driving or hydraulic system could overheat.

(20) Turn hydraulic selector switch (2) to OFF.

c. Off-Loading Flatrack in Auto Mode.

(1) Check area for sufficient operating room at front and rear of truck. Check overhead clearance and ground conditions.

(2) Apply service brake pedal (9) and set transmission range selector (7) to Neutral (N).

CAUTION

Ensure parking brake is not applied during unload sequence or damage to equipment may result.

(3) Set hydraulic selector switch (2) to AUTO.

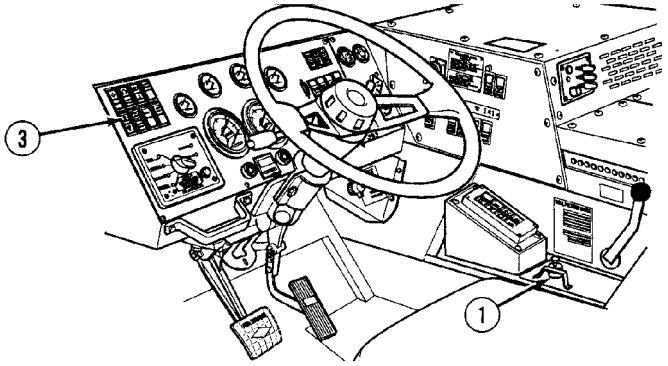
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

WARNING

- When loading or unloading flatracks on uneven ground (side slope or down grades up to 10 degrees), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.
- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

CAUTION

- Check that ground conditions where flatrack will be placed can support the flatrack weight or damage to flatrack or LHS may result.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.



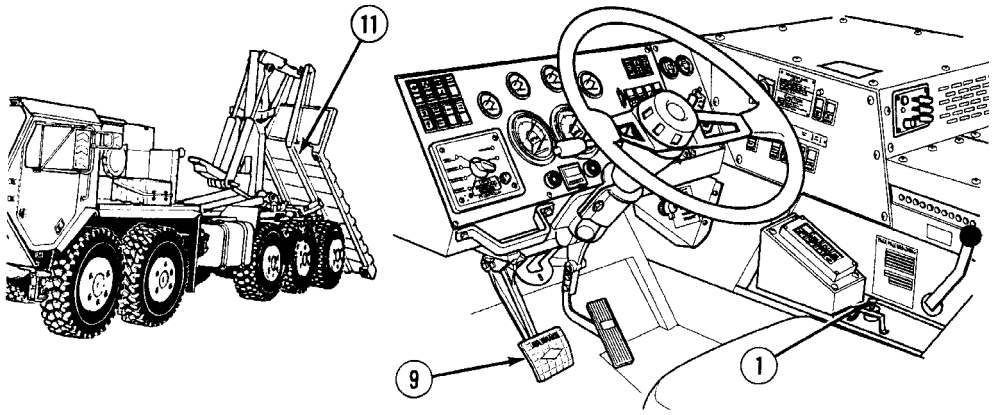
(4) Move joystick (1) to UNLOAD. Flatrack will start to move rearwards. LHS NO TRANS lamp (3) will illuminate. Maintain engine speed at idle until front of flatrack raises approximately one ft. (30.5 cm).

NOTE

Loading and unloading times are controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

(5) Continue to unload until rear suspension starts to lift and back edge of flatrack touches ground.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



(6) Release service brake pedal (9) and allow grounded flatrack to push the truck straight forward from under flatrack and clear.

(7) As front of flatrack approaches within approximately 8 in. (203.2 cm) of ground, decrease engine speed to idle and apply service brake pedal.

CAUTION

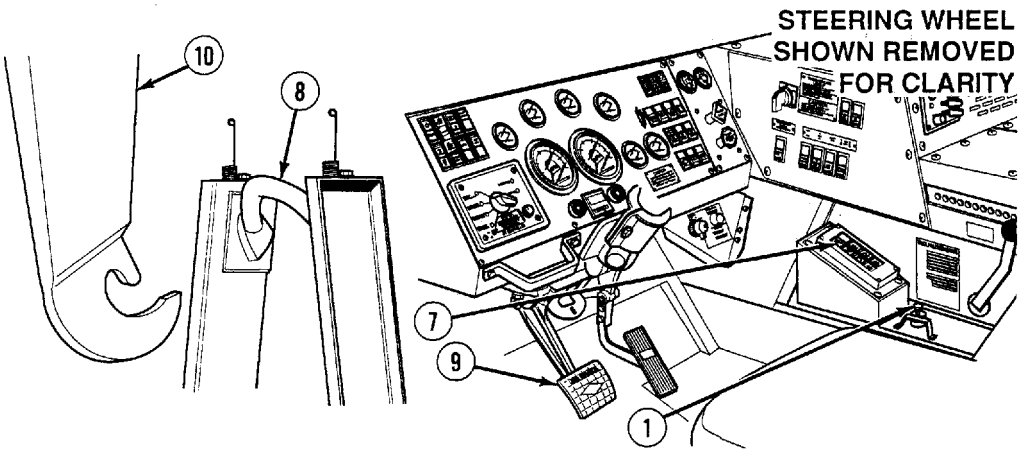
Once truck's rear suspension has been relieved of flatrack load, do not continue in UNLOAD position as possibility of jacking up rear of truck with hook arm may occur and damage to equipment may result.

NOTE

If flatrack is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) to allow truck to move out from under flatrack.

(8) Continue off-loading until flatrack runners (11) are on ground and rear suspension is unloaded.

(9) Release joystick (1) when flatrack runners (11) are resting on ground.



CAUTION

Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

NOTE

Engine speed should be set at idle. However, slight increase in engine speed may be necessary depending on terrain.

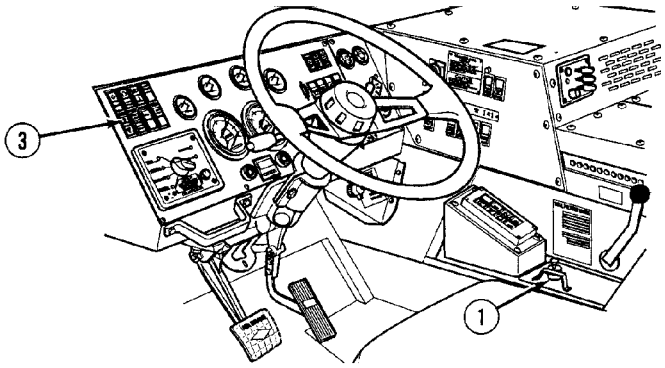
(10) Set the transmission range selector (7) to Drive (D) and release service brake pedal (9).

(11) Move joystick (1) to LOAD momentarily and then to UNLOAD to let lift-hook (10) disengage from hook-bar (8). Repeat Step (11) until hook disengages.

(12) Move truck forward approximately 5 ft. (1.5 m).

(13) Stop truck and set transmission range selector (7) to Neutral (N).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



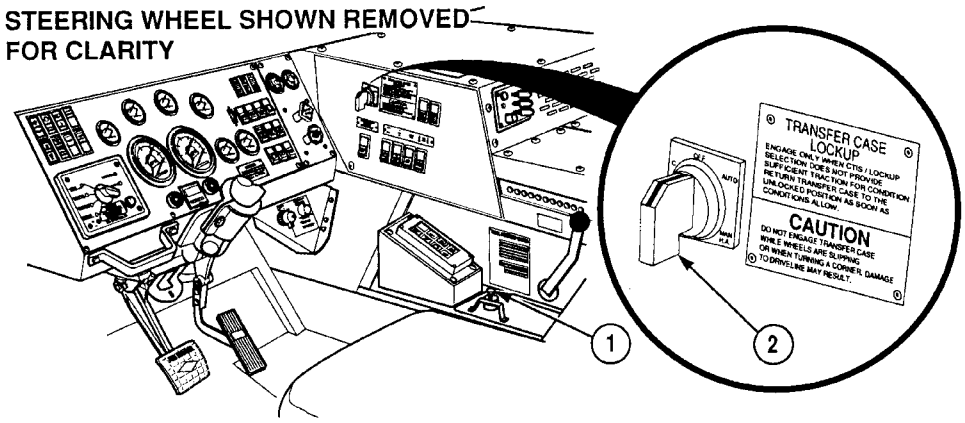
CAUTION

Never drive with NO TRANS light illuminated. An illuminated light means load locks are not engaged and LHS is not fully stowed.

NOTE

Hook arm does not need to be fully stowed if more transfer operations are going to be made.

(14) Move joystick (1) to LOAD until LHS is in transit position. LHS NO TRANS lamp (3) will extinguish indicating LHS is in transport position.

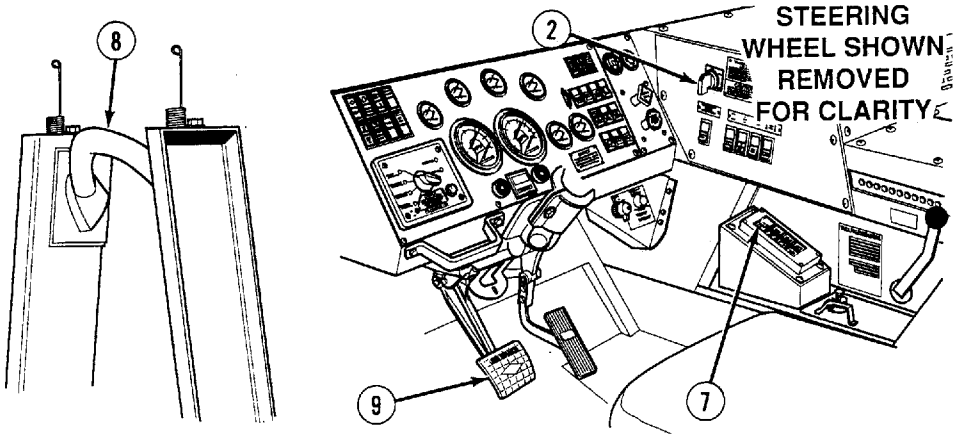


CAUTION

- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.
- Hydraulic selector switch must be in OFF position before driving or hydraulic system could overheat causing damage to equipment.

(15) Release joystick (1) and turn hydraulic selector switch (2) to OFF.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



d. Picking Up a Flatrack in Manual Mode.

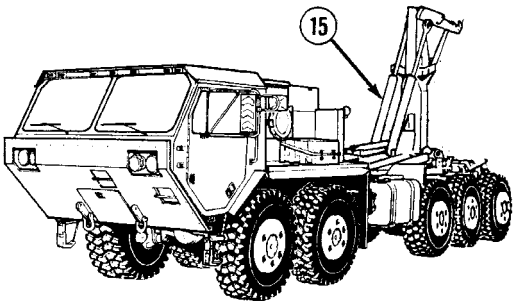
(1) Set the transmission range selector (7) to Reverse (R) and back truck up to the flatrack. Stop approximately 5 ft. (1.5 meters) from hook-bar (8). Check for overhead obstructions and firmness of ground.

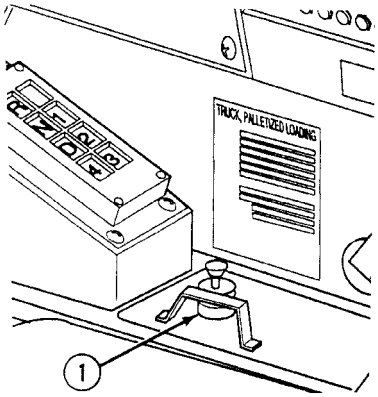
(2) Apply the service brake pedal (9) and set transmission range selector (7) to Neutral (N).

CAUTION

- To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.
- Manual mode is used mainly in event of a failure of control electrical system. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result.

(3) Turn the hydraulic selector switch (2) to MAN H.A.





WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

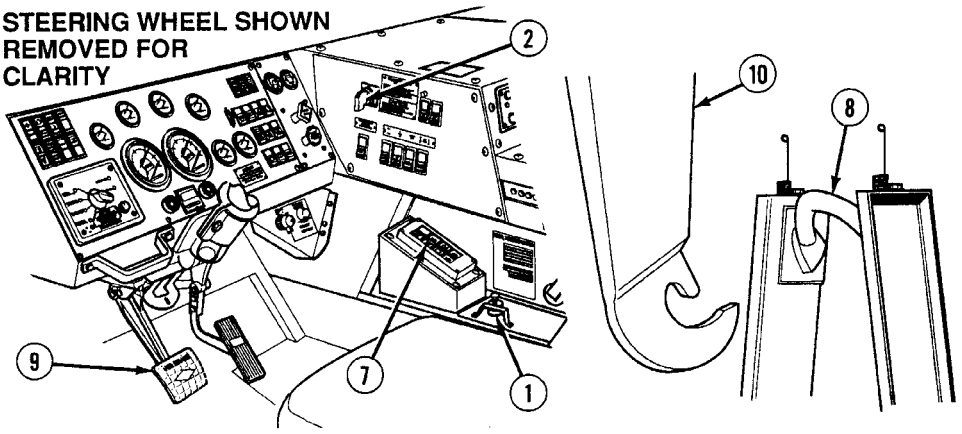
NOTE

- Overload warning light will come on when hook arm cylinders are fully extended and joystick is activated.
- Loading and unloading times are controlled by engine speed. Engine speed can be increased to 1500 rpm to reduce loading and unloading times.

(4) Move joystick (1) to UNLOAD and hold until hook arm cylinders (15) are fully extended.

(5) Release joystick (1).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



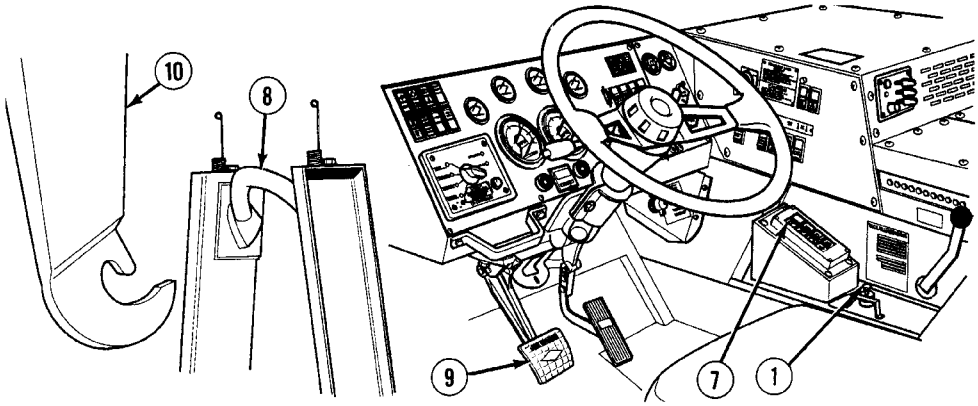
CAUTION

- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.
- To avoid equipment damage, ensure that main frame cylinders do not complete full extension while operating at engine speeds above idle.
- Manual mode is used mainly in event of a failure of control electrical system. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result.
- If LHS had previously been used in Manual Mode and not completely stowed in Auto Mode, the hook arm cylinders must be completely extended or the LHS must be completely stowed using Auto Mode before the flatrack can be loaded. Failure to comply may result in damage to the truck and flatrack.

(6) Turn hydraulic selector switch (2) to MAN M.F.

(7) Move joystick (1) to UNLOAD and hold until lift-hook (10) has moved below level of flatrack hook-bar (8).

(8) Apply service brake pedal (9) and set transmission range selector (7) to Reverse (R) and back truck up to flatrack, aligning truck and flatrack as straight as possible with lift-hook (10) to the middle of hook-bar (8).



(9) Stop truck when lift-hook (10) touches flatrack.

(10) Leave truck in reverse gear with engine at idle.

CAUTION

- Ensure parking brake is not applied during unload sequence or damage to equipment may result.
- Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

(11) Move joystick (1) to LOAD to engage lift-hook (10) and hook-bar (8).

(12) If lift-hook (10) fails to engage hook-bar (8):

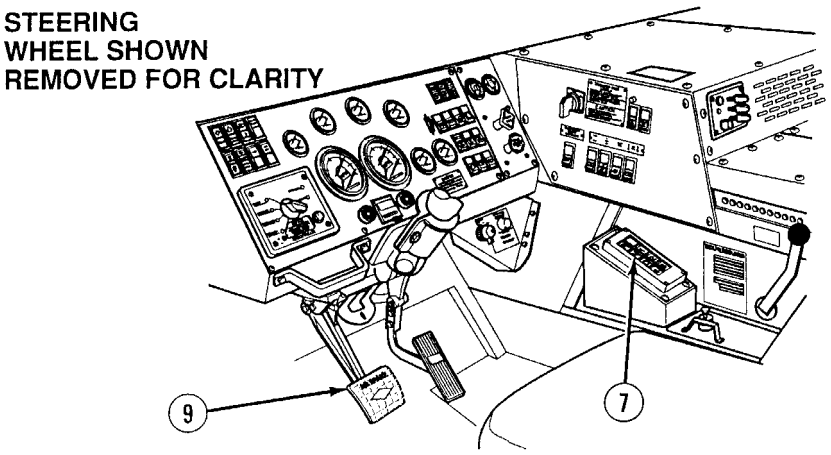
(a) Release joystick (1).

(b) Set transmission range selector (7) to Drive (D), release service brake pedal (9) and move truck forward just clear of flatrack.

(c) Move joystick (1) to UNLOAD until lift-hook (10) is below level of hook-bar (8).

(d) Repeat Steps (8) through (11).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

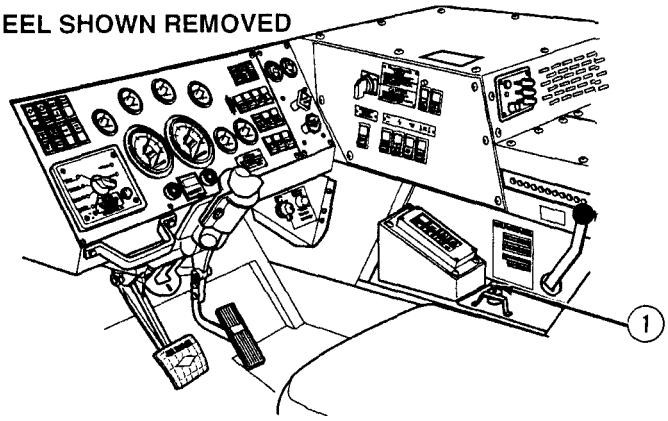


WARNING

- When loading or unloading flatracks on uneven ground (side slope or downgrades up to 10 degrees) it may be necessary to apply truck service brakes to prevent truck roll away, or severe injury or death could result.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

(13) Set transmission range selector (7) to Neutral (N) and release service brake pedal (9).

STEERING WHEEL SHOWN REMOVED FOR CLARITY



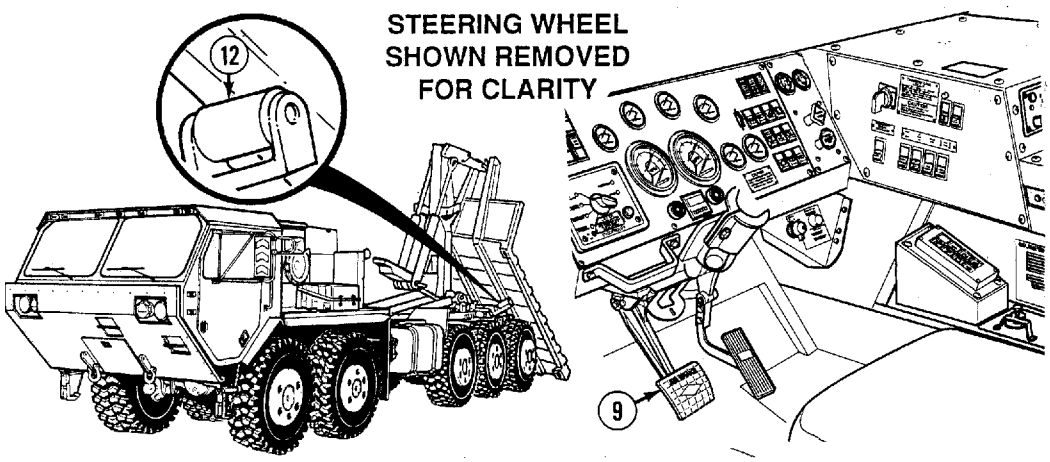
CAUTION

- If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should determine if payload is evenly distributed on flatrack or if flatrack load exceeds 16.5 tons (14,969 kg). If any of these conditions exist, operator must redistribute or reduce payload or damage to equipment may result.

- Ensure that parking brake is not applied before starting load sequence or damage to equipment may result.

(14) Move joystick (1) to LOAD, allowing truck to be pulled under flatrack.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



WARNING

Ensure that flatrack runners contact LHS rear rollers correctly. Failure to contact flatrack runners correctly could result in serious injury or death to personnel and damage to equipment.

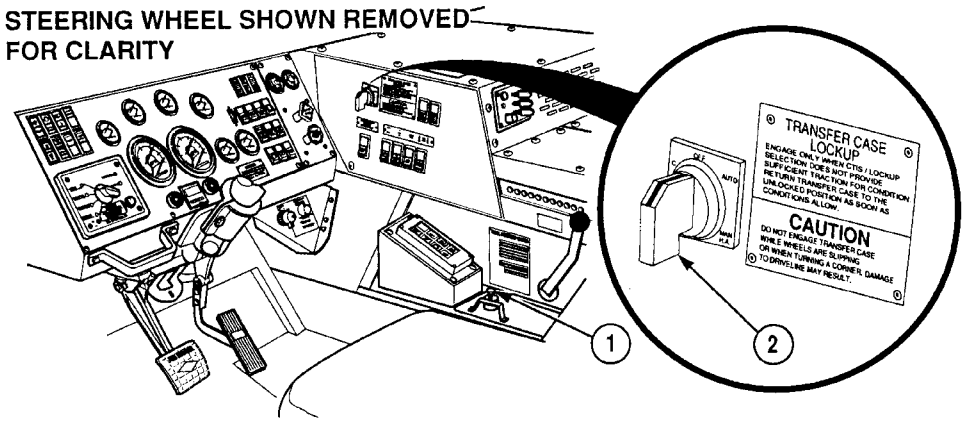
CAUTION

Reduce engine speed to idle before flatrack main rails contact rear rollers. Damage to flatrack may result.

NOTE

- As load is lifted, truck will be pulled under the flatrack. Some steering adjustment may have to be made to ensure that flatrack runners will contact rear rollers.
- If flatrack is being loaded in soft soil conditions, perform Steps (15) a through c, then continue with Step (16).

(15) Before flatrack contacts rear rollers (12), reduce engine speed and apply service brake pedal (9).

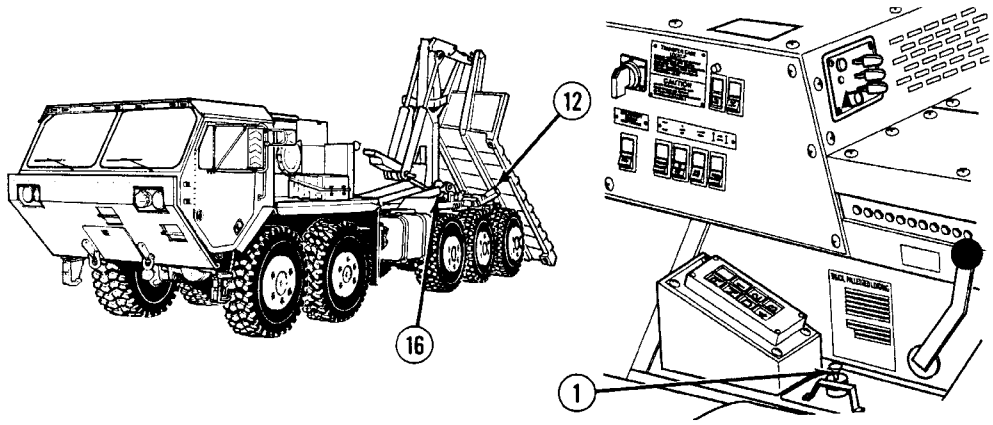


(a) Release the joystick (1). Set hydraulic selector switch (2) to MAN H.A.

(b) Move the joystick (1) to LOAD until flatrack is approximately 2 ft. (0.61 m) off the ground. Release joystick.

(c) Set the hydraulic selector switch (2) to MAN M.F. operations.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

To avoid equipment damage, visually check that main frame cylinders do not complete full retraction while operating at engine speeds above idle.

NOTE

Engine speed will require increasing and decreasing in the following steps.

(16) After flatrack contacts rear rollers (12), increase engine speed to approximately 1500 rpm until main frame cylinders (16) have nearly completed full retraction.

CAUTION

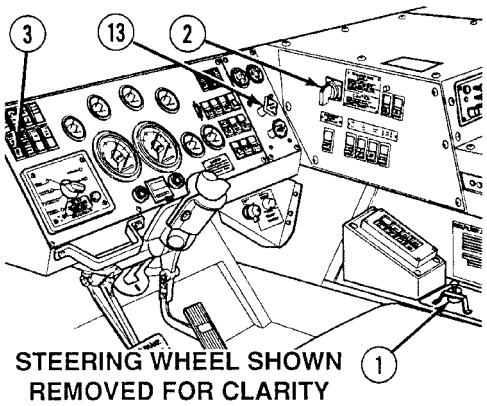
Failure to reduce engine speed to idle could result in severe damage to LHS components.

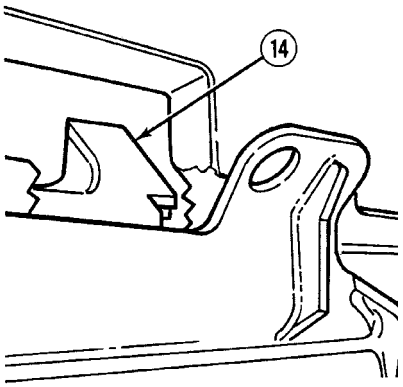
(17) Reduce engine speed to idle and continue loading until main frame cylinders are fully retracted.

NOTE

Overload warning light will come on when main frame cylinders are fully retracted and joystick is activated.

(18) Release the joystick (1).





CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(19) Turn the hydraulic selector switch (2) to MAN H.A.

CAUTION

Failure to reduce engine speed to idle could result in severe damage to LHS components.

(20) Move the joystick (1) to LOAD position and increase engine speed until flatrack is nearly loaded, then reduce speed to idle.

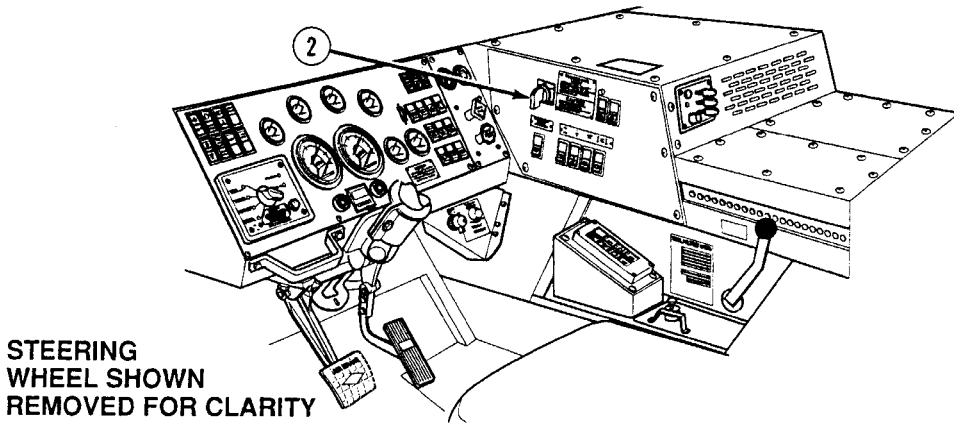
(21) Continue to load until LHS and flatrack is in transit position. LHS NO TRANS light (3) will extinguish.

(22) Release joystick (1).

(23) Apply parking brakes (13).

(24) Inspect that load locks (14) have engaged and flatrack is fully down on truck.

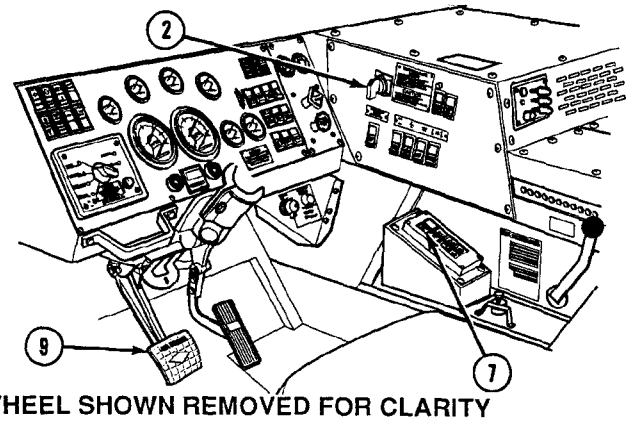
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

- Hydraulic selector switch must remain MAN TRANS while truck is travelling or damage to equipment may result.
- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(25) Turn the hydraulic selector switch (2) to MAN TRANS.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

e. Off-Loading Flatrack in Manual Mode.

(1) Check for sufficient operating room at front and rear of truck. Check overhead clearance and ground conditions.

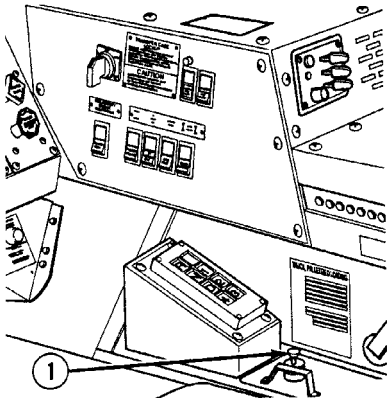
(2) Apply the service brake pedal (9) and set transmission range selector (7) to Neutral (N).

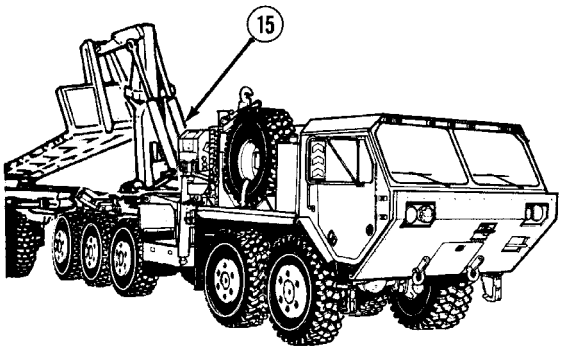
CAUTION

Manual mode is used mainly in event of a failure of control electrical system. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result.

(3) Turn the hydraulic selector switch (2) to MAN H.A.

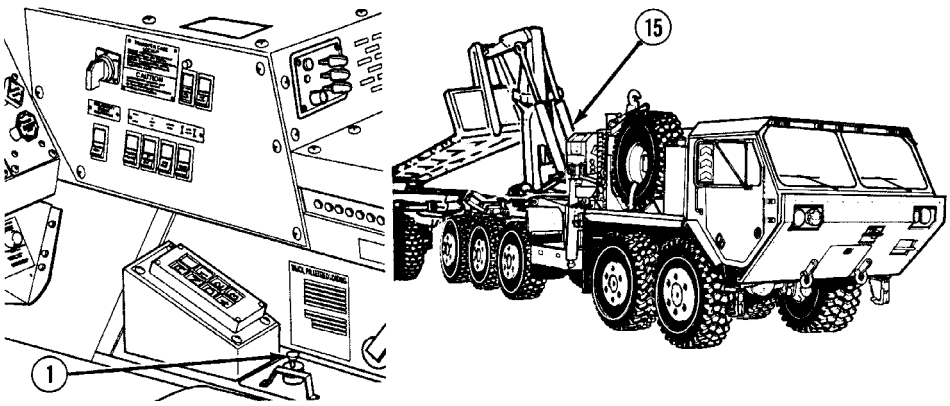
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).





WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.



CAUTION

- Reduce speed to idle in last 12 in. (30 cm) of travel to prevent damage to cylinder.
- To avoid equipment damage, insure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

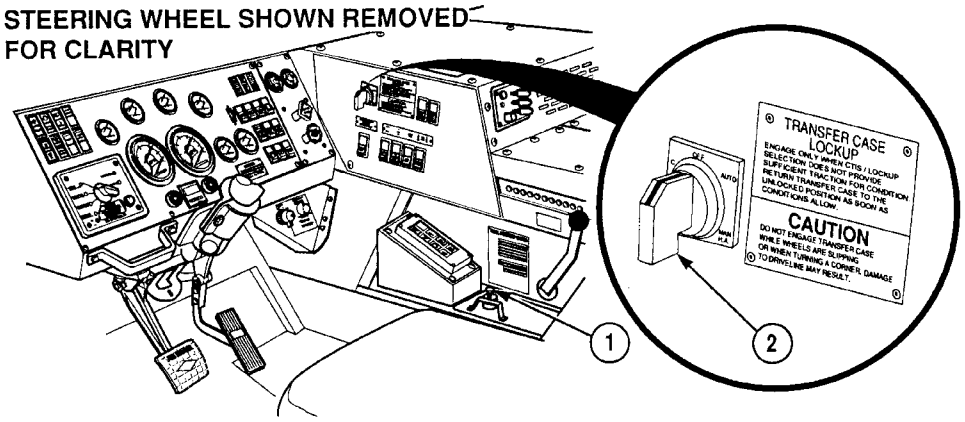
(4) Move the joystick (1) to UNLOAD until hook arm cylinders (15) have fully extended. Maintain engine speed at idle for approximately the first 18 in. (46 cm) and last 6 in. (15 cm) of movement.

NOTE

When hook arm cylinders are fully extended and joystick activated, overload warning light will illuminate.

(5) Release the joystick (1).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

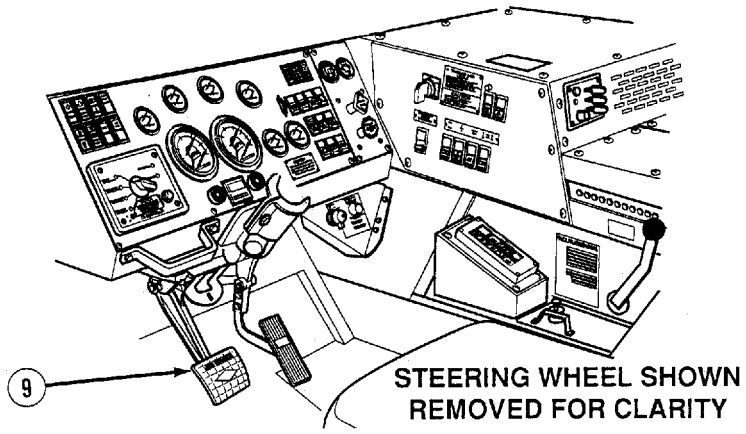


CAUTION

- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.
- Ensure parking brake is released before starting the unload sequence or damage to equipment may result.

(6) Turn the hydraulic selector switch (2) to MAN M.F.

(7) Move the joystick (1) to UNLOAD.



WARNING

When loading or unloading flatracks on uneven ground (side slope or down grades up to 10 degrees), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

NOTE

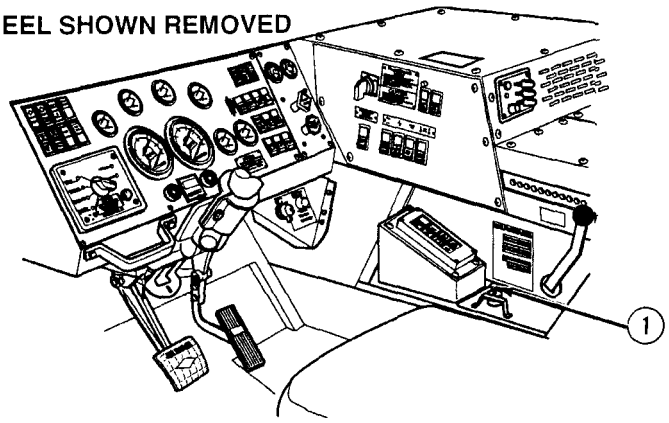
If flatrack is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) to allow truck to move out from under flatrack.

(8) When back edge of flatrack touches ground, release service brake pedal (9) allowing truck to be pushed straight from under flatrack.

(9) Continue off-loading until front of flatrack is within 8 in. (203.2 cm) of ground, decrease engine speed to idle and apply service brake pedal (9).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

STEERING WHEEL SHOWN REMOVED FOR CLARITY

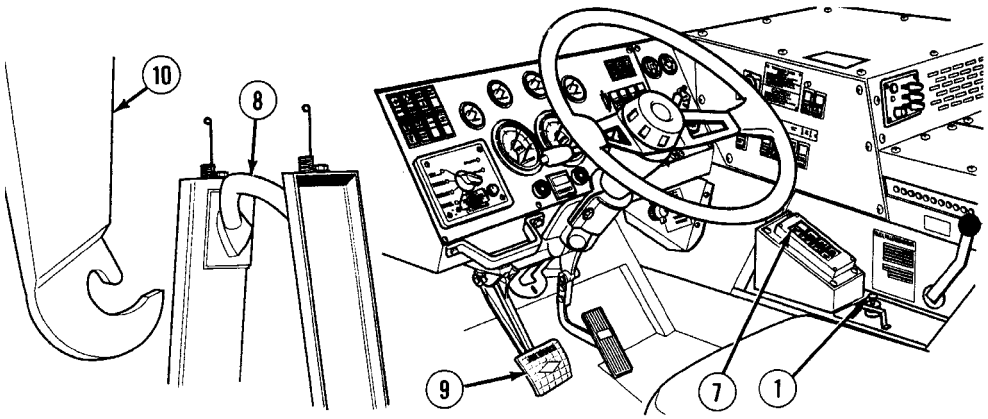


CAUTION

Once suspension has been relieved of flatrack load, do not continue in UNLOAD position or rear of truck could jack up with hook arm and equipment damage may result.

(10) Continue off-loading until flatrack is on ground and rear suspension is unloaded.

(11) Release joystick (1).



NOTE

Engine speed should be set at idle. However, slight increase in engine speed may be necessary depending on terrain.

(12) Set transmission range selector (7) to Drive (D) and release service brake pedal (9).

(13) Move the joystick (1) to LOAD momentarily and then to UNLOAD to let lift-hook (10) disengage from hook-bar (8). Repeat Step (13) until lift-hook disengages.

(14) Move the truck forward approximately 5 ft. (1.5 m).

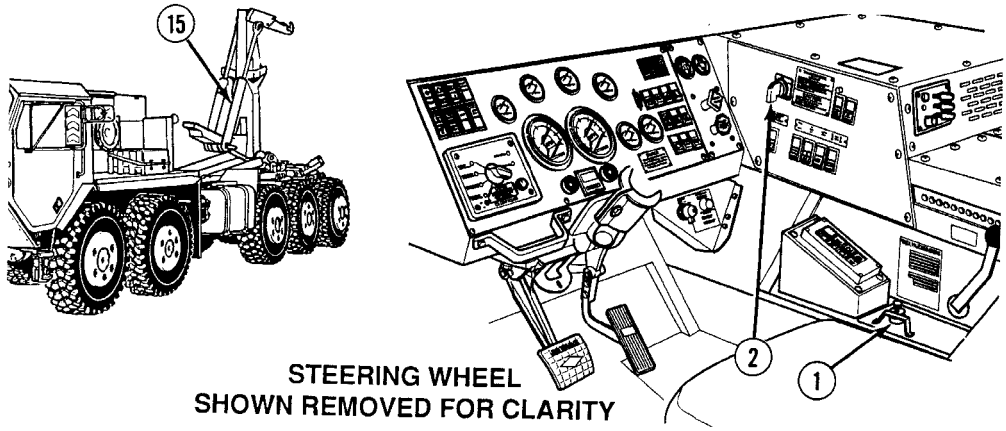
(15) Stop the truck and set the transmission range selector (7) to Neutral (N).

CAUTION

- To avoid equipment damage, visually check that main frame cylinders have completed full retraction.
- Reduce speed to idle in last 12 in. (30 cm) of travel to prevent damage to cylinders.

(16) Move the joystick (1) to LOAD and hold in this position until main frame cylinders are fully retracted.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(17) Turn the hydraulic selector switch (2) to MAN H.A.

(18) Hold the joystick (1) in LOAD position until the hook arm cylinders (15) are fully retracted.

(19) Release joystick (1).

WARNING

Never drive with NO TRANS light illuminated. An illuminated lights means LHS is not fully stowed. The load could break loose causing serious injury or death to personnel.

CAUTION

Hydraulic selector switch must remain in MAN TRANS while truck is traveling or hydraulic system will overheat.

(20) Turn hydraulic selector switch (2) to MAN TRANS.

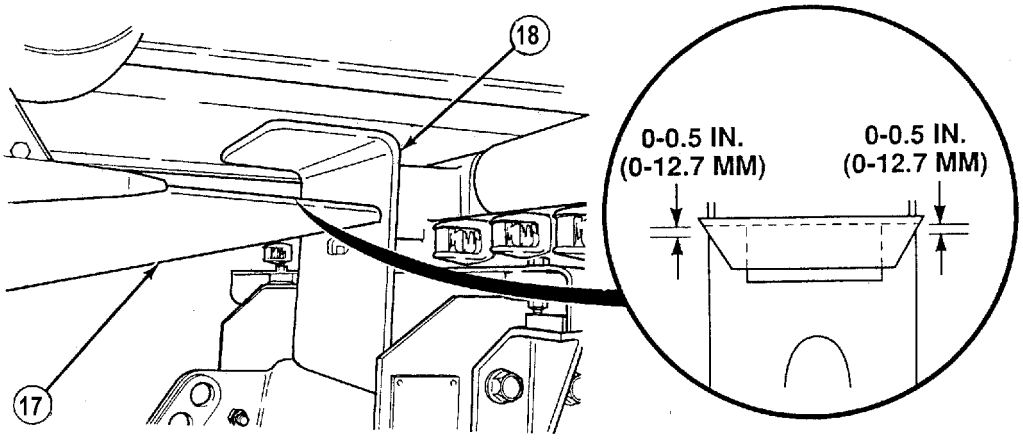
f. Normal Transfer of Flatrack to Trailer.

WARNING

- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.
- Trailer wheels must be chocked during transfer operations or serious injury or death could result.

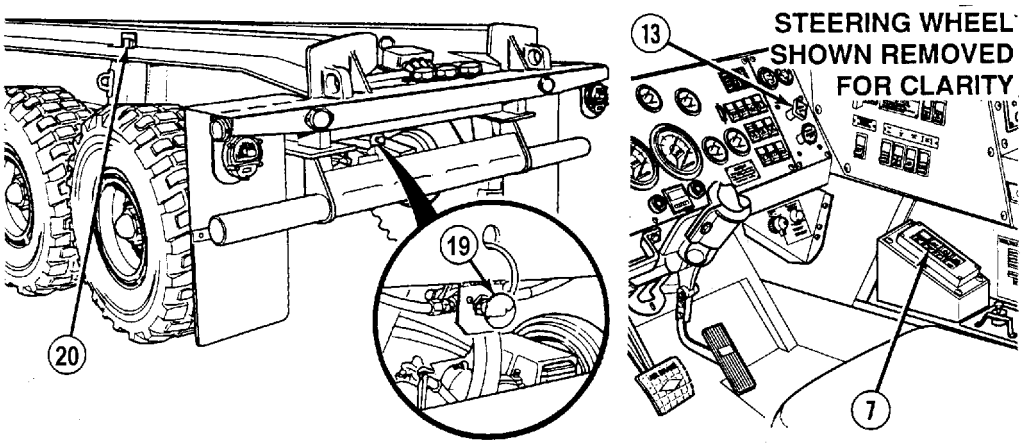
CAUTION

- Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.
- If trailer is equipped with trailer drawbar extension kit, drawbar extension must be in stowed position or damage to equipment may result.
- Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).
- Both of the trailer bumper points must be under the truck bumper stop flange and at least one of the bumper points must contact the bumper stop. The trailer bumper point not contacting the truck bumper stop cannot exceed 0.5 in. (12.7 mm) or flatrack will miss main rail guides and equipment damage may result.



(1) Back up truck so that trailer bumper (17) is under flange and contacts truck bumper stop (18).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



(2) Apply parking brakes (13) and set transmission range selector (7) to Neutral (N).

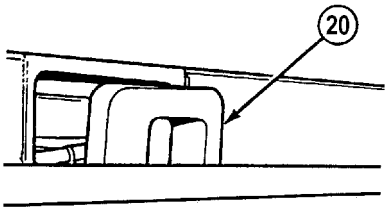
WARNING

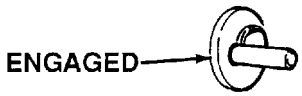
- When operating PLS truck with PLS trailer, the heaviest loaded flatrack must always be placed on the truck, otherwise adverse handling and/or braking may result, causing injury or death to personnel.
- Ensure trailer air system is charged before beginning transfer, or flatrack locks may not properly engage. Serious injury or death could result to personnel.

CAUTION

There must be sufficient air pressure in trailer air system to retract flatrack locks or damage to flatrack locks can occur while attempting to load flatrack on trailer. If not, use truck to charge trailer air system using trailer air charging hose. If air system cannot retract flatrack locks, use manual flatrack lock retract procedure (TM 9-2330-385-14).

(3) Push in on knob (19) and retract flatrack locks (20) on trailer.

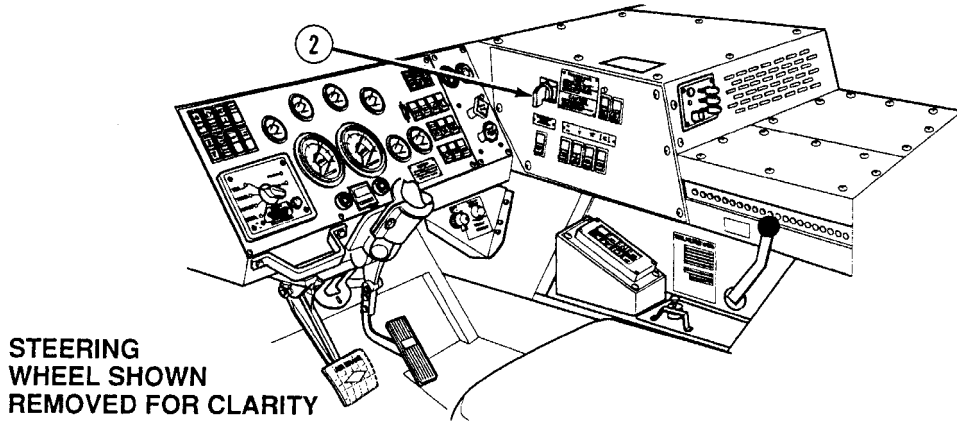




CAUTION

Ensure both flatrack locks are fully retracted or damage to equipment may result.

(4) Inspect that both flatrack locks (20) are fully retracted.

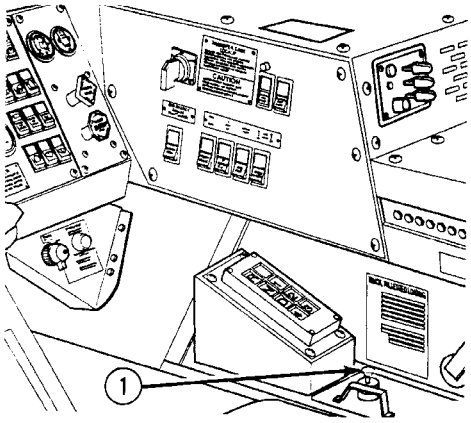


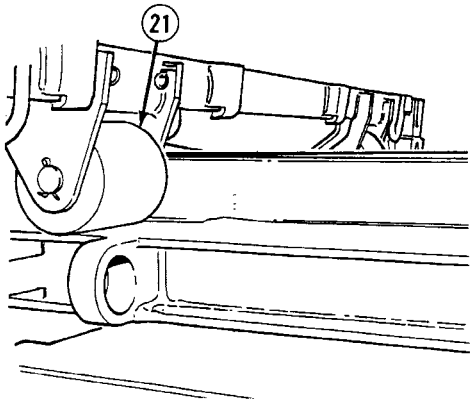
CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(5) Turn hydraulic selector switch (2) to AUTO.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



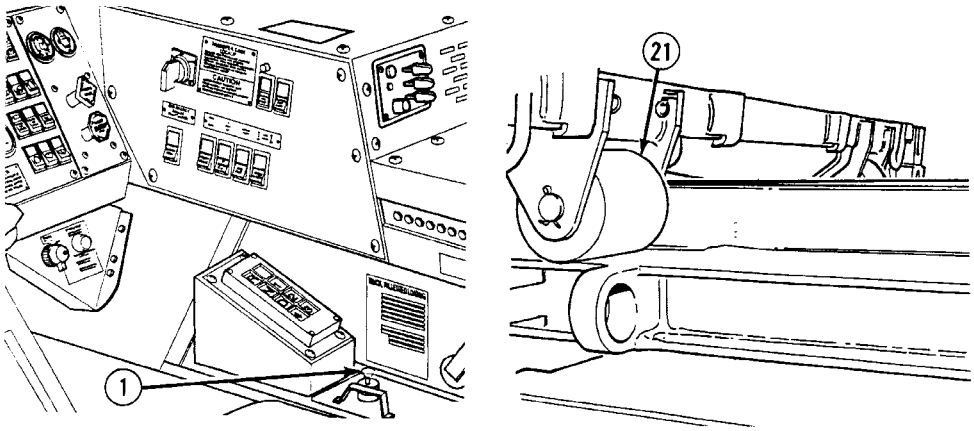


WARNING

- When loading or unloading flatracks on uneven ground (side slope or downgrades up to 10 degrees) it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.
- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Trailer wheels must be chocked during transfer operations or serious injury or death could result.

CAUTION

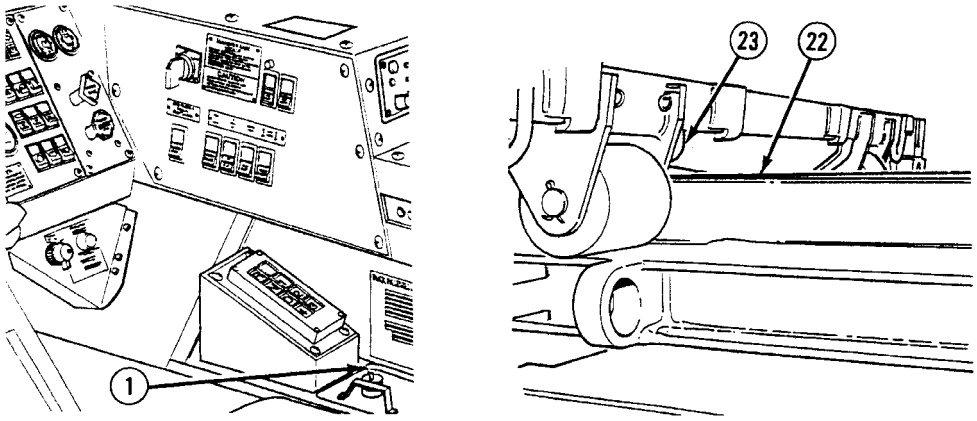
- Load must be evenly distributed on flatrack. Uneven load distribution may cause LHS Overload indicator to give false signals and cause LHS to operate incorrectly.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.



NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

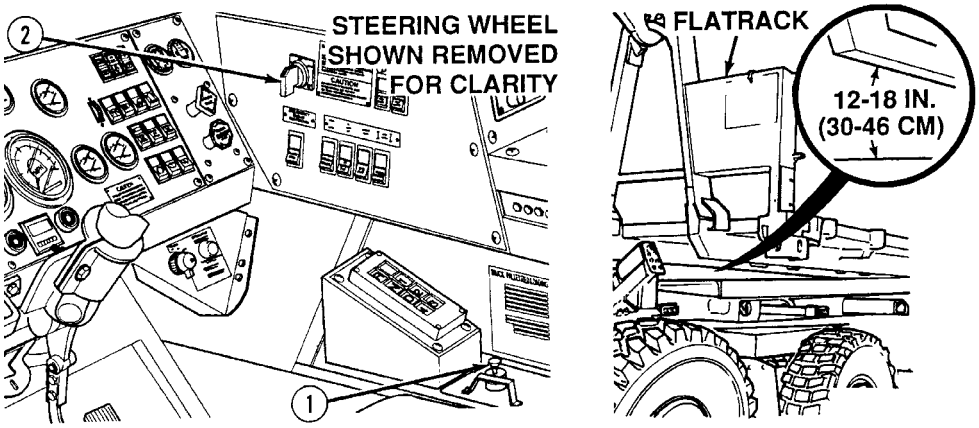
(6) Move joystick (1) to UNLOAD until flatrack rollers (21) contact trailer.



(7) Release the joystick (1).

(8) Inspect and verify trailer guides (22) are lined up between flatrack main rails (23).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

If not aligned, perform Step (8). If aligned, go to Step (9).

(9) If not aligned:

(a) Move joystick (1) to LOAD.

(b) When flatrack is fully reloaded, release joystick (1).

(c) Repeat Steps (5) through (7).

(10) Move the joystick (1) to UNLOAD until flatrack is seated on trailer.

(11) Release the joystick (1).

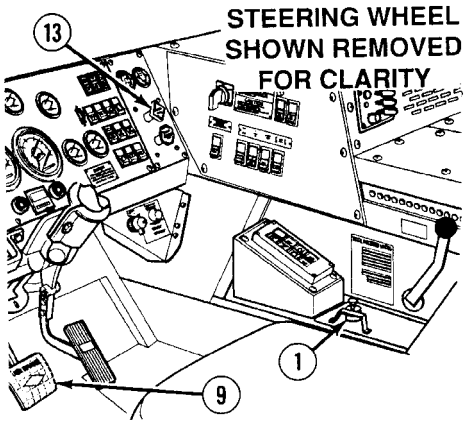
CAUTION

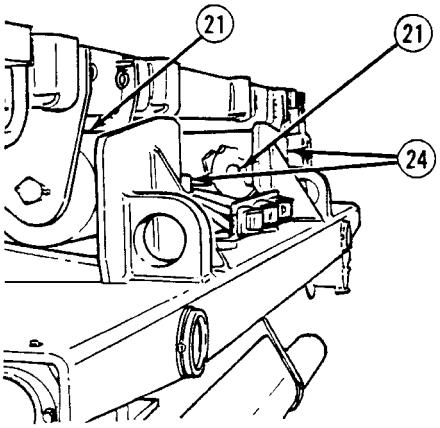
Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(12) Turn the hydraulic selector switch (2) to MAN H.A.

(13) Move the joystick (1) to LOAD until front of flatrack is raised approximately 12 to 18 in. (30 to 46 cm) above trailer deck height.

(14) Turn the hydraulic selector switch (2) to MAN M.F.





(15) Move the joystick (1) to UNLOAD until flatrack rollers (21) contact rear trailer stops (24) and front of flatrack guides are seated on trailer.

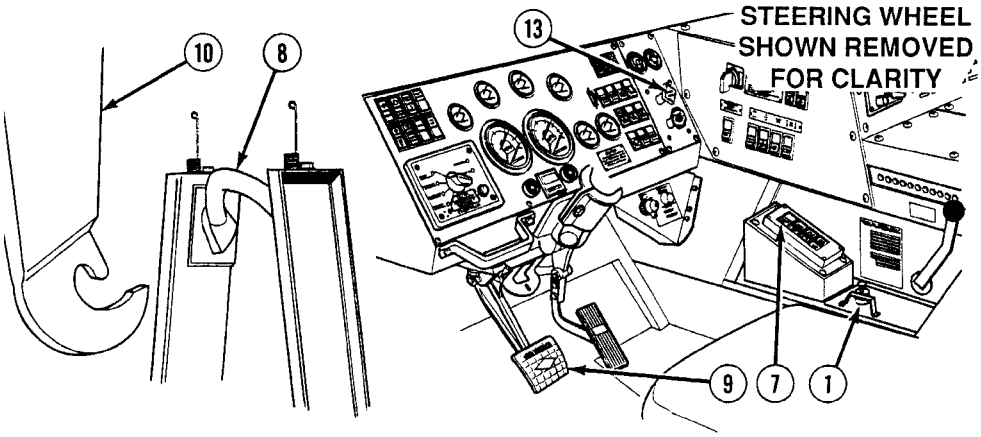
(16) Release the joystick (1).

(17) Inspect that rear rollers (21) on flatrack have contacted rear trailer stops (24).

(18) Apply the service brake pedal (9).

(19) Release truck parking brakes (13).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

It may be necessary to repeat Steps (19) through (21) several times to clear hook arm from hook bar.

(20) Move the joystick (1) to LOAD to allow top of lift-hook (10) to clear hook-bar (8).

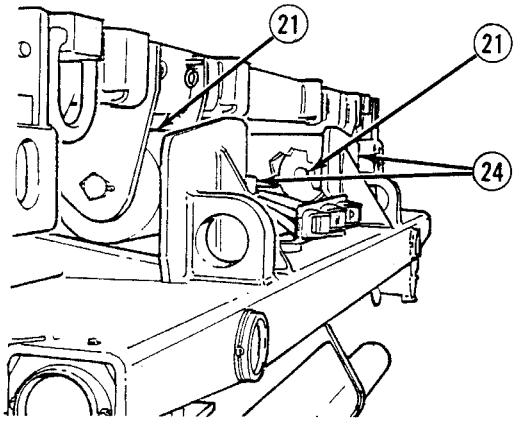
NOTE

Do not move truck forward more than 3 in. (76.2 mm) to prevent flatrack from pulling away from stops.

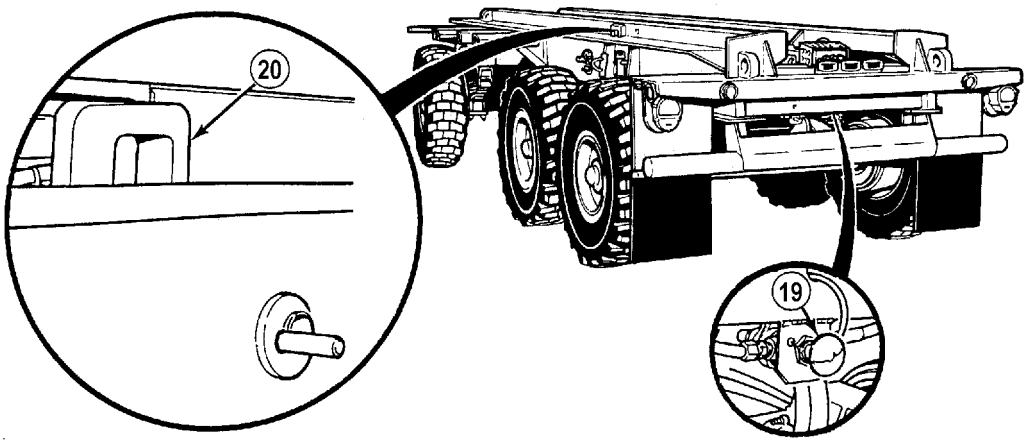
(21) Place transmission range selector (7) in Drive (D). Release service brake pedal (9) and move truck forward approximately 3 in. (76.2 mm). Apply service brake pedal (9).

(22) Move the joystick (1) to UNLOAD to disengage lift-hook (10) from hook-bar (8).

(23) Set transmission range selector (7) to Neutral (N) and apply truck parking brakes (13).



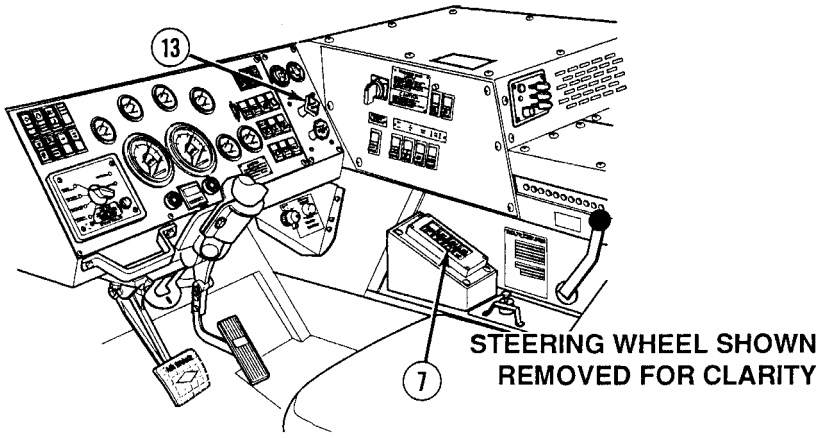
(24) Inspect that rear flatrack rollers (21) have contacted trailer stops (24).



(25) Pull knob (19) and engage flatrack locks (20).

(26) Inspect that flatrack locks (20) are engaged.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

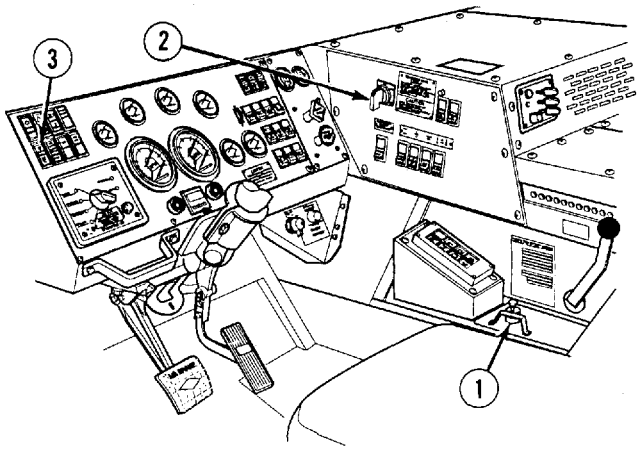


(27) Release the parking brake (13).

(28) Set the transmission range selector (7) to Drive (D).

(29) Move the truck forward approximately 5 ft. (1.5 m).

(30) Apply the truck parking brakes (13) and set transmission range selector (7) to Neutral (N).



WARNING

Never drive with NO TRANS light illuminated. An illuminated light means LHS is not fully stowed. The load could brake loose causing serious injury or death to personnel.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

NOTE

Hook arm does not need to be fully stowed if more transfer operations are going to be made.

(31) Turn the hydraulic selector switch (2) to AUTO.

(32) Move the joystick (1) to LOAD and retract LHS until LHS NO TRANS light (3) is extinguished.

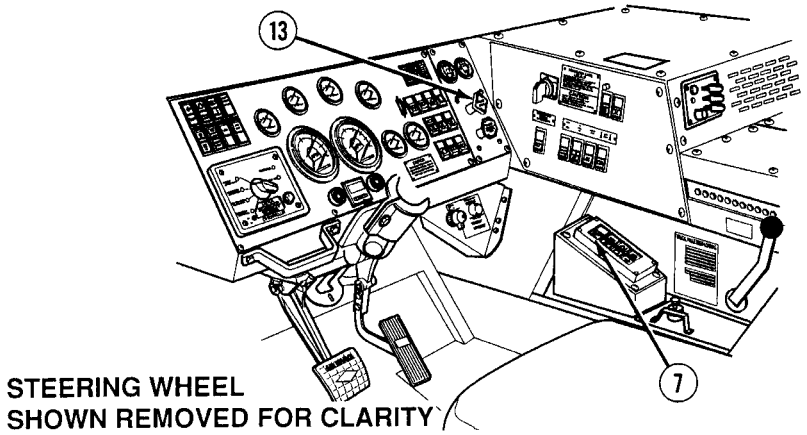
CAUTION

Hydraulic selector switch must be in OFF position before driving or hydraulic system can overheat causing damage to equipment.

(33) Turn hydraulic selector switch (2) to OFF.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

g. Normal Removal of Flatrack From Trailer.

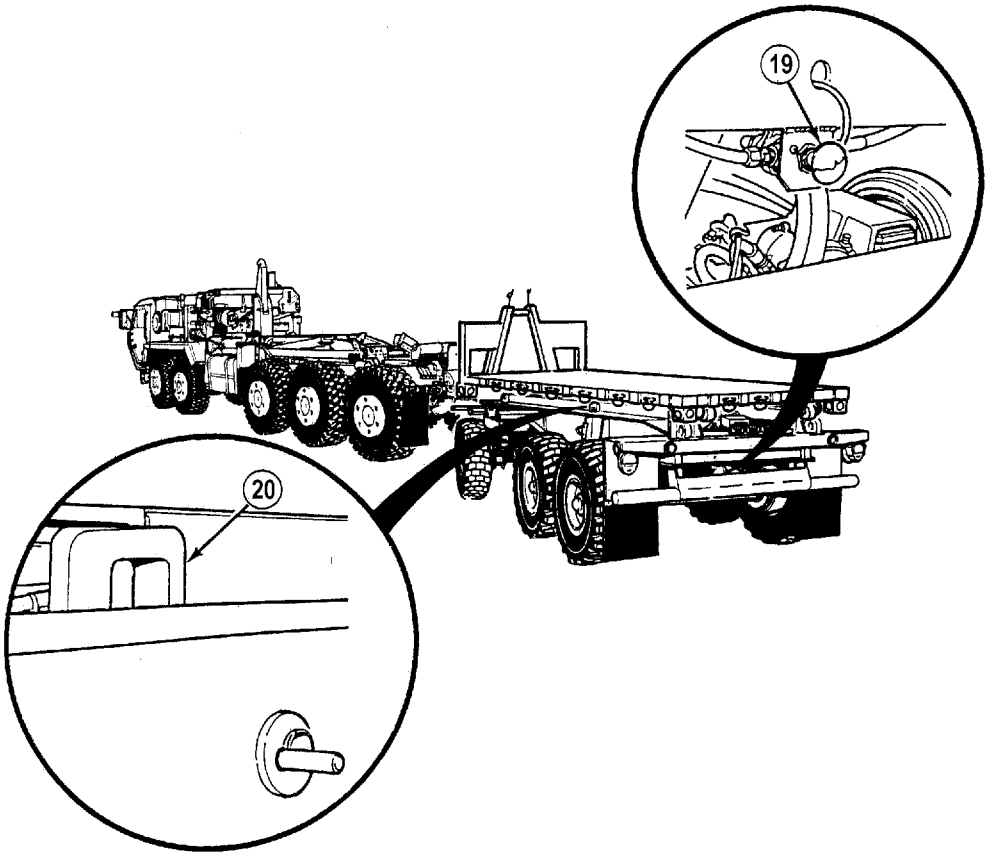


CAUTION

Load must be evenly distributed on pallet. Uneven load distribution may cause LHS Overload indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.

(1) Back the truck up in line with trailer and stop approximately 5 ft. (1.5 m) from trailer.

(2) Apply parking brake (13) and place transmission range selector (7) in Neutral (N).

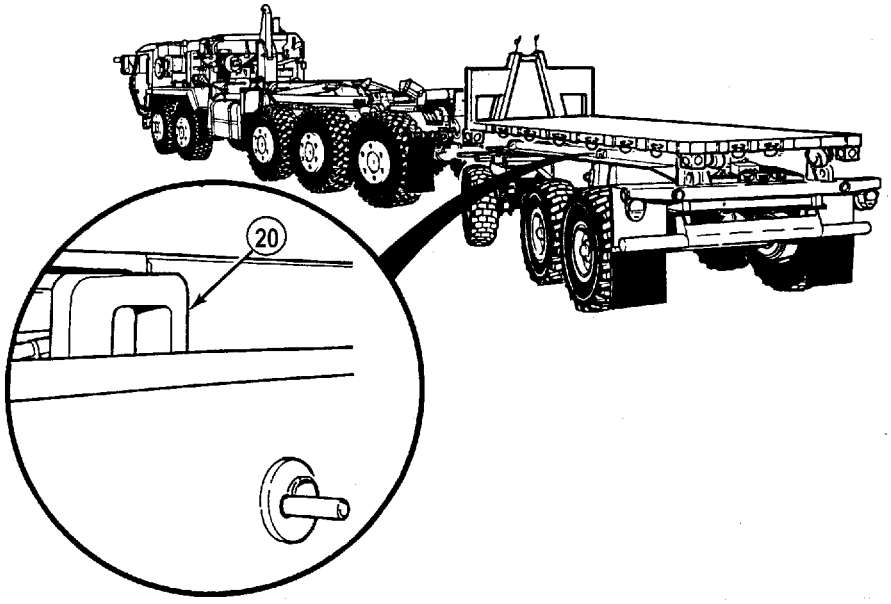


CAUTION

- There must be sufficient air pressure in trailer air system to retract flatrack locks or damage to flatrack lock can occur while attempting to remove flatrack from trailer. If not, use truck to charge trailer air system using trailer air charging hose. If air system cannot retract flatrack locks use manual flatrack lock retract procedure (TM 9-2330-385-14).
- Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).
- Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.
- If trailer is equipped with trailer drawbar extension kit, drawbar extension must be in stowed position or damage to equipment may result.

(3) Push the knob (19) on trailer to retract flatrack locks (20).

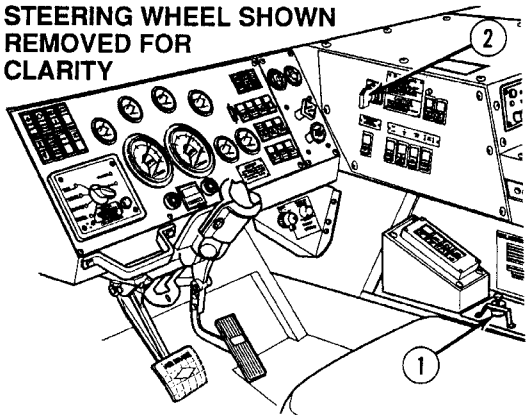
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

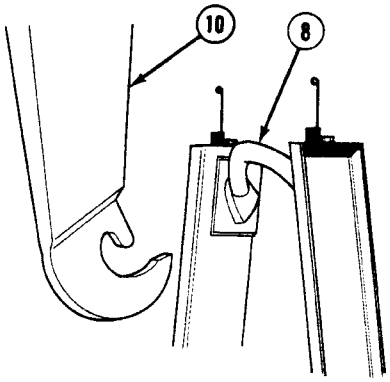


CAUTION

Ensure both flatrack locks are fully retracted or damage to equipment may result.

(4) Inspect that both flatrack locks (20) are fully retracted.





WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.
- Trailer wheels must be chocked during transfer operations or serious injury or death could result.

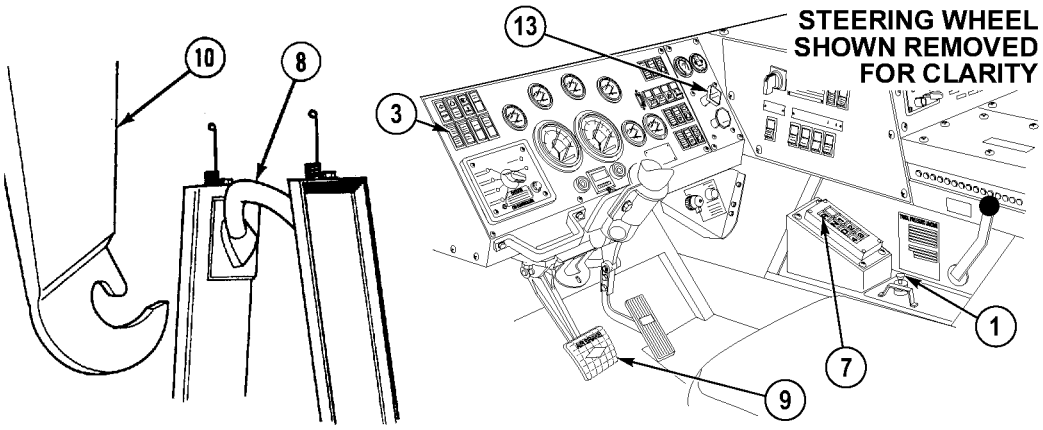
CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

(5) Turn the hydraulic selector switch (2) to AUTO.

(6) Move the joystick (1) to UNLOAD until lift-hook (10) has moved just below level of flatrack hook-bar (8).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



(7) Apply service brake pedal (9) and release parking brake (13).

(8) Set transmission range selector (7) to Reverse (R), release service brake pedal (9), and back truck up until lift-hook (10) contacts hook-bar (8).

(9) Set the transmission range selector (7) to Neutral (N) and apply truck parking brake (13).

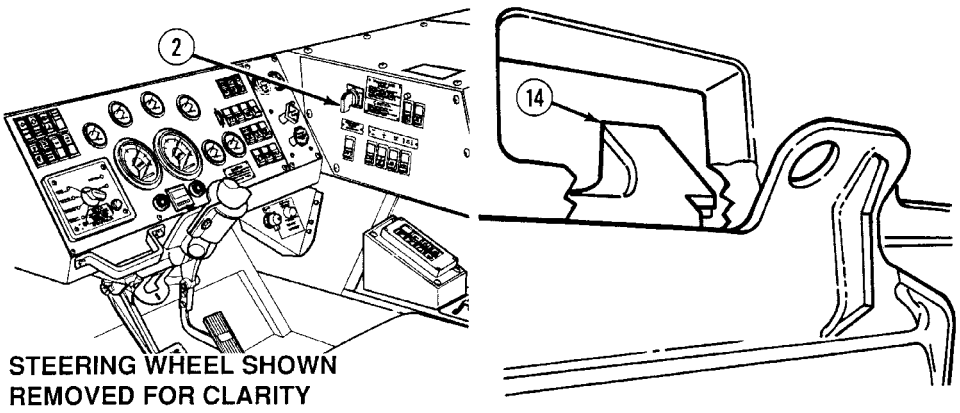
NOTE

Loading and unloading times are controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

(10) Move joystick (1) to LOAD and engage lift-hook (10) into hook-bar (8).

(11) Continue loading flatrack onto truck until the LHS NO TRANS light (3) is extinguished indicating LHS is in transportation position.

(12) Apply parking brake (13) and set the transmission range selector (7) to Neutral (N).



NOTE

If load locks do not engage, raise flatrack slightly and lower again. Flatrack should seat completely and engage load locks.

(13) Inspect that the load locks (14) are engaged and flatrack is completely down on truck.

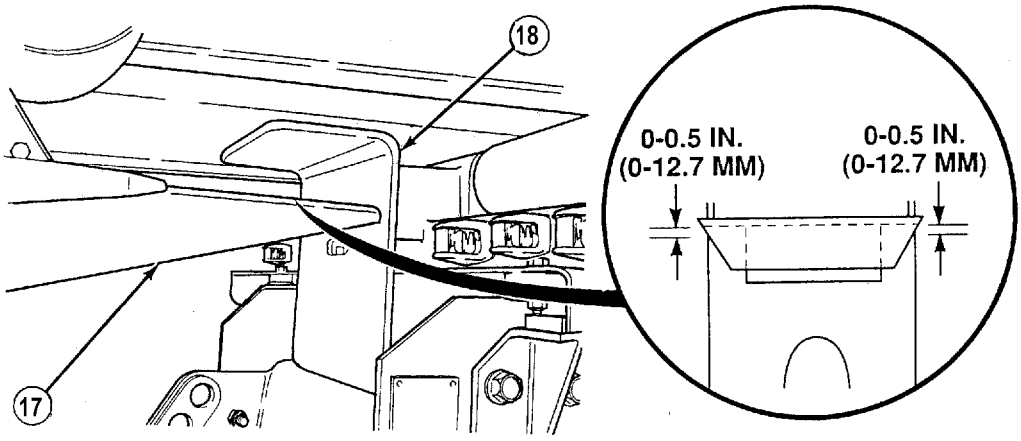
CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(14) Turn hydraulic selector switch (2) to OFF.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

h. Transfer of Flatrack to Trailer in Manual Mode.



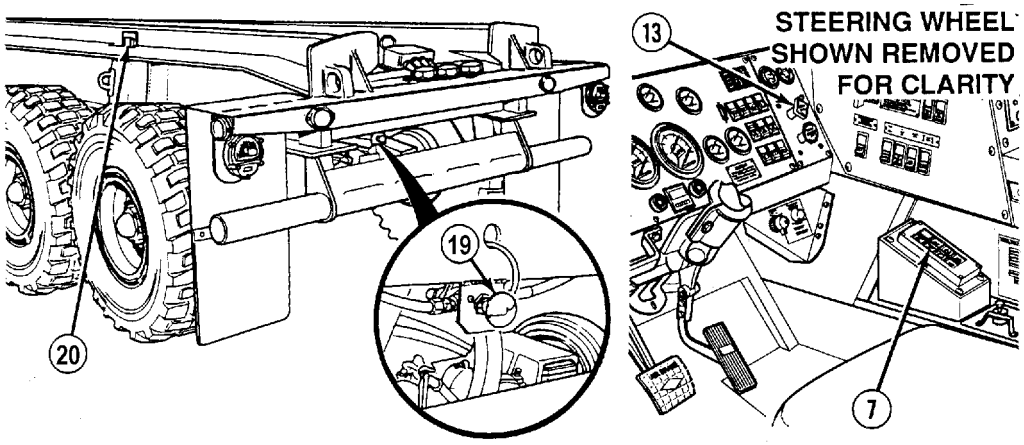
WARNING

Trailer wheels must be chocked during transfer operations or serious injury or death could result.

CAUTION

- Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.
- If trailer is equipped with trailer drawbar extension kit, drawbar extension must be in stowed position or damage to equipment may result.
- Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).
- Both of the trailer bumper points must be under the truck bumper stop flange and at least one of the bumper points must contact the bumper stop. The trailer bumper point not contacting the truck bumper stop cannot exceed 0.5 in. (12.7 mm) or flatrack will miss main rail guides and equipment damage may result.

(1) Back up the truck so that trailer bumper (17) is under flange and contacts truck bumper stop (18).



CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

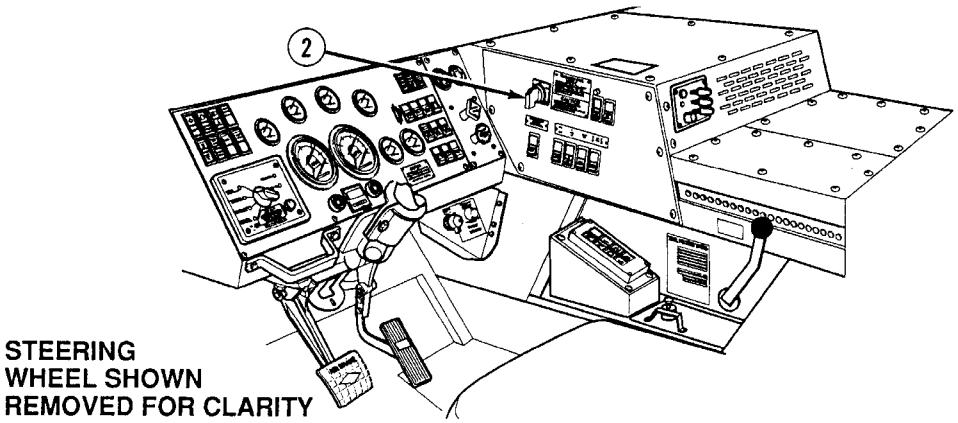
(2) Set the parking brake (13) and place transmission range selector switch (7) in Neutral (N).

WARNING

Ensure trailer air system is pressurized before beginning transfer, or flatrack locks may not properly engage. Serious injury or death could result to personnel and damage to equipment may result.

(3) Push in knob (19) and retract flatrack locks (20).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



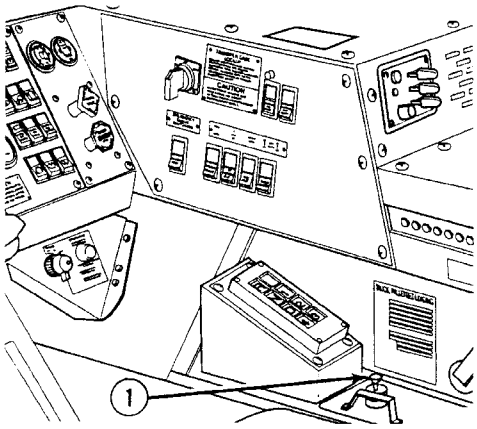
CAUTION

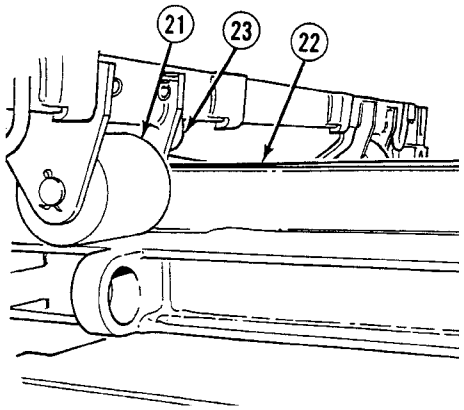
- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Load must be evenly distributed on flatrack pallet. Uneven load distribution may cause LHS Overload indicator to give false signals and cause LHS to operate incorrectly.

NOTE

The time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

(4) Turn the hydraulic selector switch (2) to MAN H.A.





WARNING

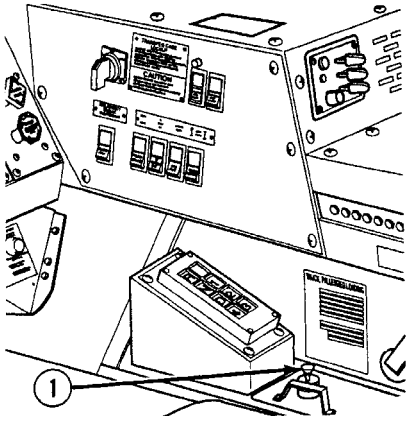
- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

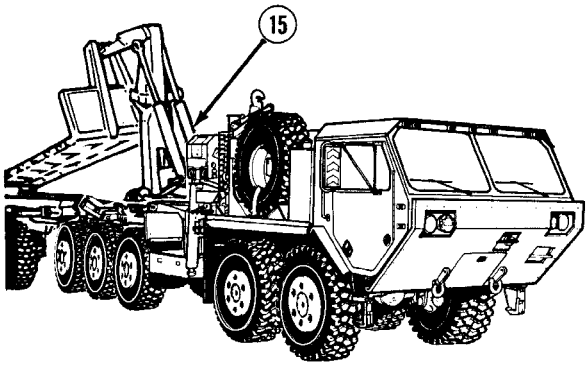
(5) Move the joystick (1) to UNLOAD until flatrack rollers (21) contact trailer.

(6) Release the joystick (1).

(7) Inspect and verify that trailer guides (22) are between flatrack main rails (23).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).





(8) If not aligned:

(a) Move joystick (1) to LOAD.

(b) When flatrack is completely reloaded onto truck, release joystick (1).

(c) Repeat Steps (4) through (6).

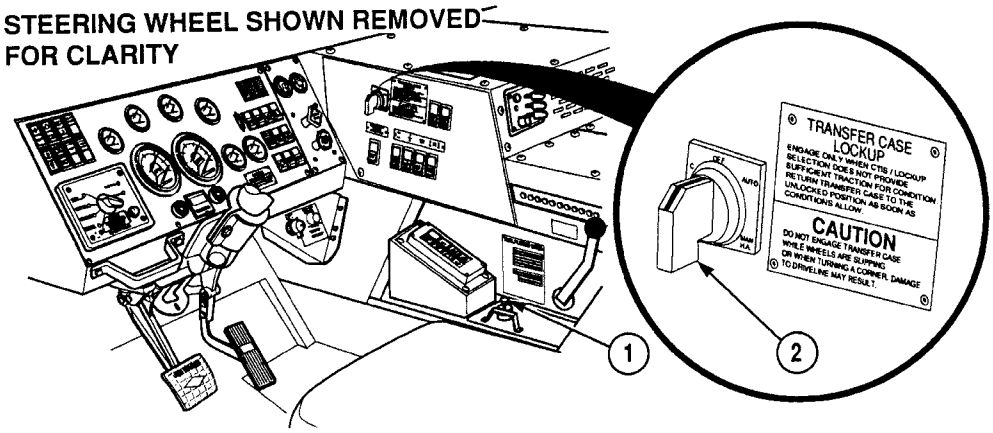
CAUTION

- To avoid equipment damage, visually check that hook arm cylinders have fully extended.
- To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.

NOTE

Overload warning light will come on when hook arm cylinders are fully extended and joystick is activated.

(9) Move the joystick (1) to UNLOAD and hold until hook arm cylinders (15) are fully extended.



(10) Release the joystick (1).

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(11) Turn the hydraulic selector switch (2) to MAN M.F.

(12) Move the joystick (1) to UNLOAD until front of flatrack is completely seated on trailer.

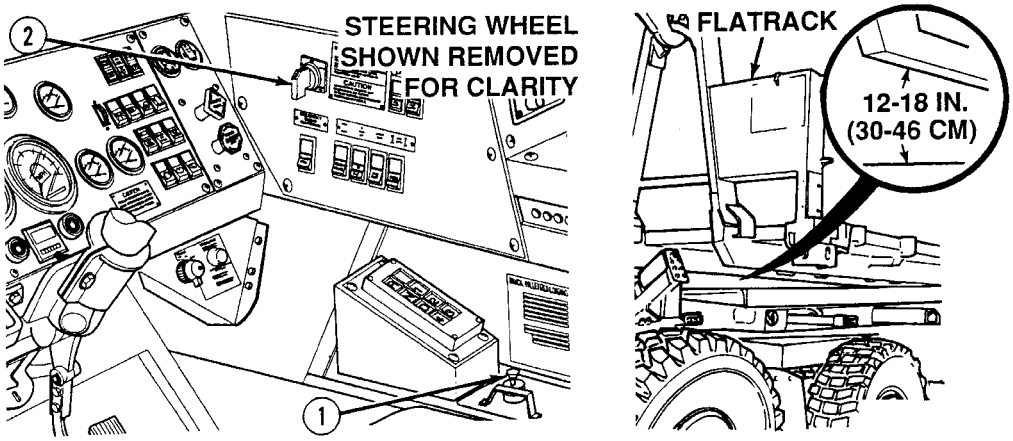
(13) Release the joystick (1).

CAUTION

Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

(14) Turn the hydraulic selector switch (2) to MAN H.A.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

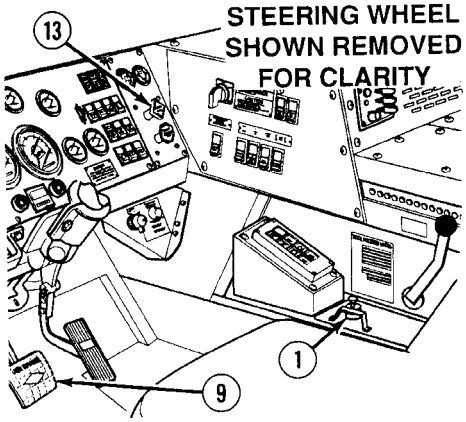


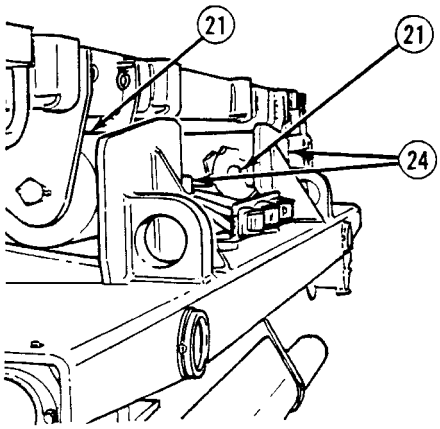
(15) Move joystick (1) to LOAD until front of flatrack is raised approximately 12 to 18 in. (30 to 46 cm) above trailer deck height.

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(16) Turn the hydraulic selector switch (2) to MAN M.F.





(17) Move the joystick (1) to UNLOAD until flatrack rollers (21) contact trailer stops (24) and front of flatrack guides are seated on trailer.

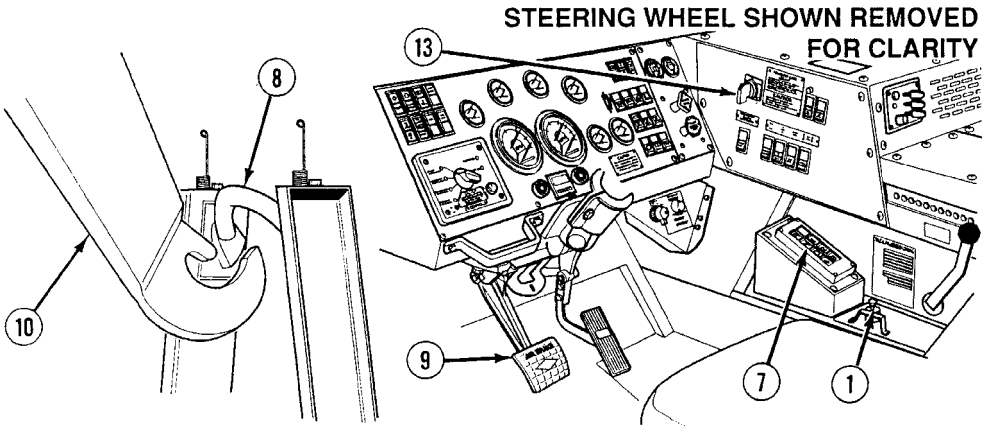
(18) Release the joystick (1).

(19) Inspect that rear flatrack rollers (21) on flatrack have contacted trailer stops (24).

(20) Apply the service brake pedal (9).

(21) Release truck parking brakes (13).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

It may be necessary to repeat the following step several times to clear lift-hook from hook-bar.

(22) Move the joystick (1) to LOAD to allow top of lift-hook (10) to clear hook-bar (8).

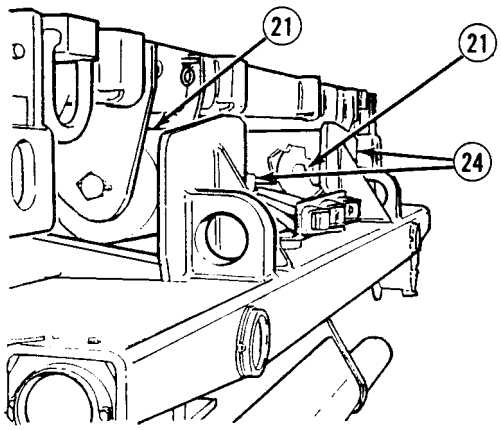
NOTE

Do not move truck forward more than 3 in. (76.2 mm) to prevent flatrack from pulling away from stops.

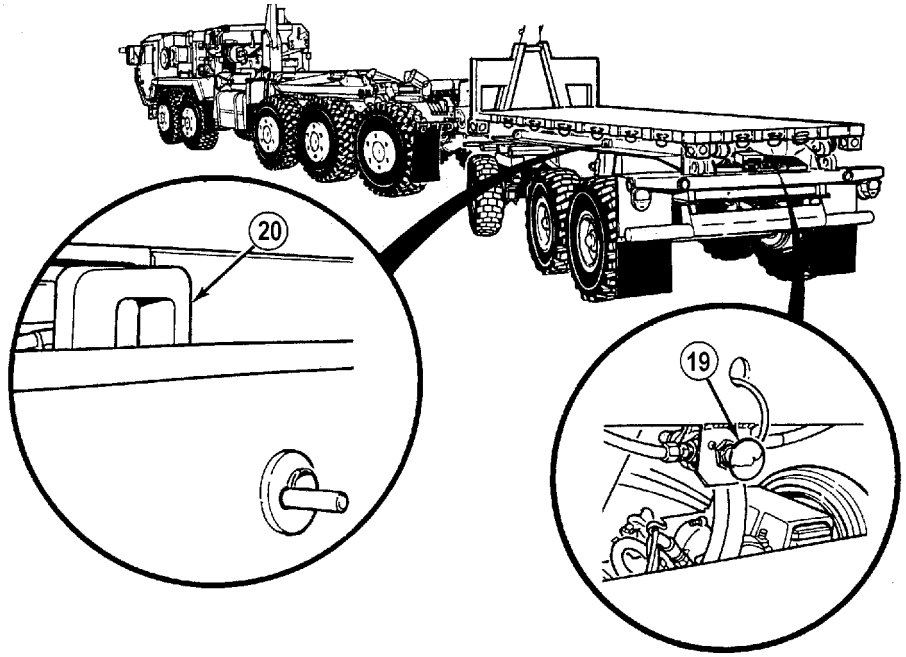
(23) Release the service brake pedal (9) and place transmission range selector (7) in Drive (D) and move truck forward approximately 3 in. (76.2 mm). Apply service brake pedal (9).

(24) Move the joystick (1) to UNLOAD to disengage lift-hook (10) from hook-bar (8).

(25) Set the transmission range selector (7) to Neutral (N) and apply the parking brakes (13).



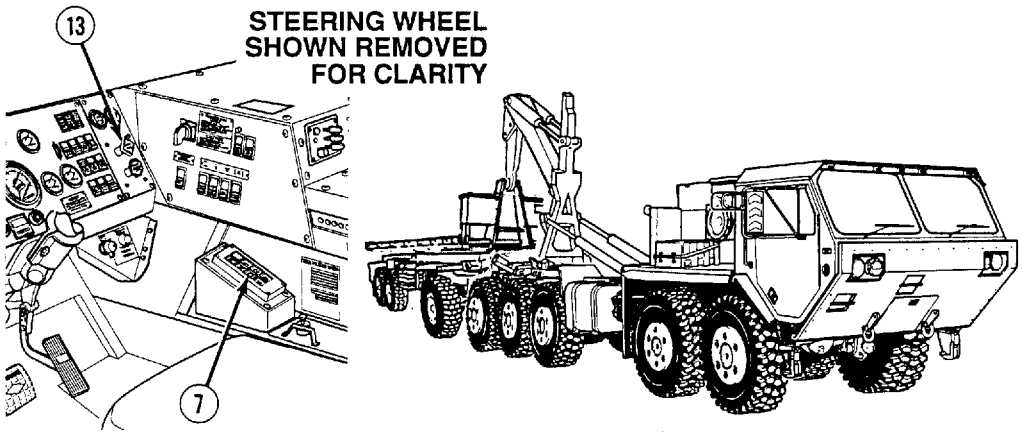
(26) Inspect that rear flatrack rollers (21) have contacted trailer stops (24).



(27) Pull knob (19) and engage flatrack locks (20).

(28) Inspect that flatrack locks (20) are engaged.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



(29) Release the parking brake (13).

(30) Set the transmission range selector (7) to Drive (D).

(31) Move the truck forward approximately 5 ft. (1.5 m).

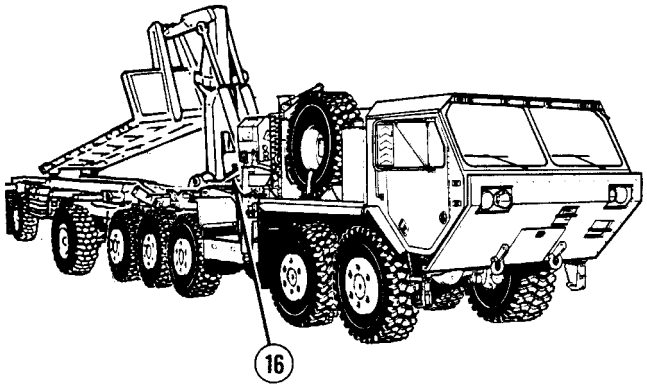
(32) Apply the truck parking brakes (13) and set the transmission range selector (7) to Neutral (N).

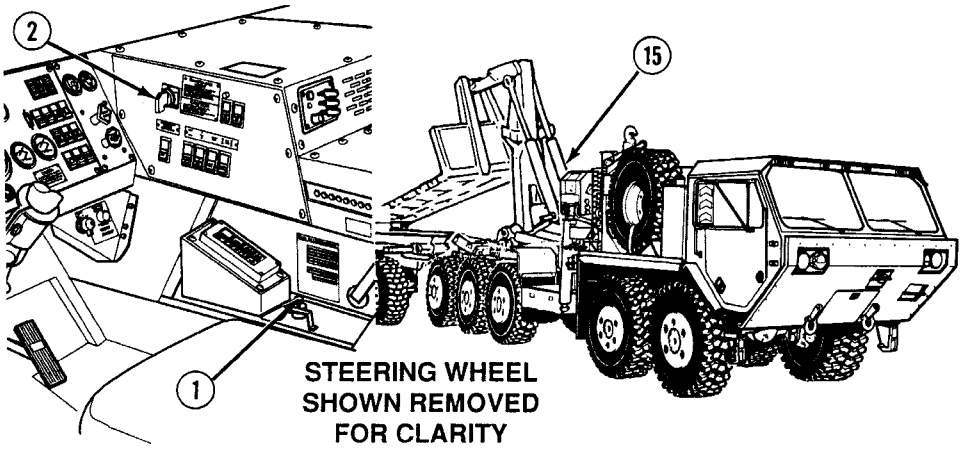
WARNING

Never drive with NO TRANS light illuminated. An illuminated lights means LHS is not fully stowed. The load could break loose causing serious injury or death to personnel.

NOTE

Overload warning light will come on when main frame cylinders are fully extended or fully retracted and joystick is being activated.





(33) Move the joystick (1) to LOAD and hold in this position until main frame cylinders (16) are fully retracted.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(34) Turn the hydraulic selector switch (2) to MAN H.A.

NOTE

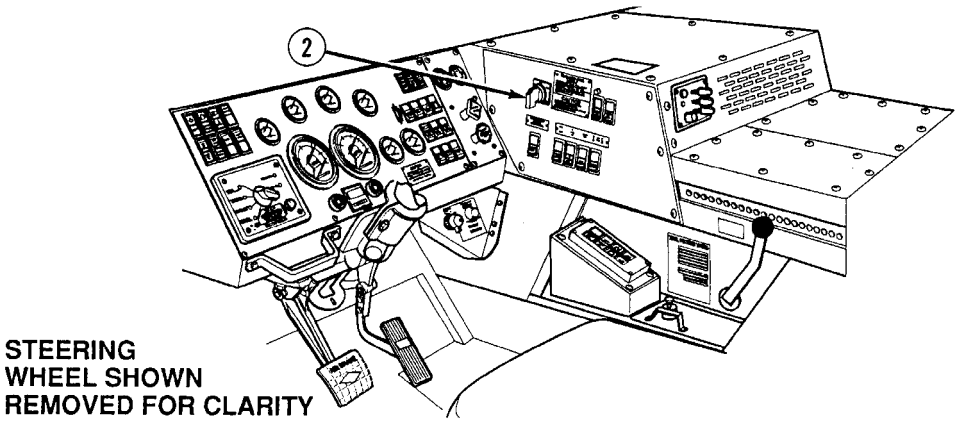
Overload warning light will come on when hook arm cylinders are fully extended or retracted and joystick is being activated.

(35) Hold the joystick (1) in LOAD position until the hook arm cylinders (15) are fully retracted.

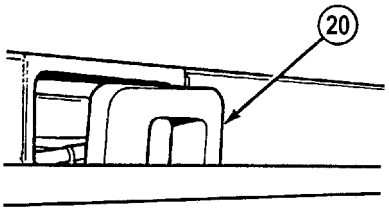
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

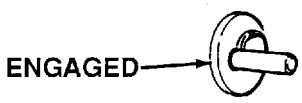
CAUTION

- Hydraulic selector switch must remain in MAN TRANS while truck is traveling or hydraulic system will overheat causing damage to truck.
- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.



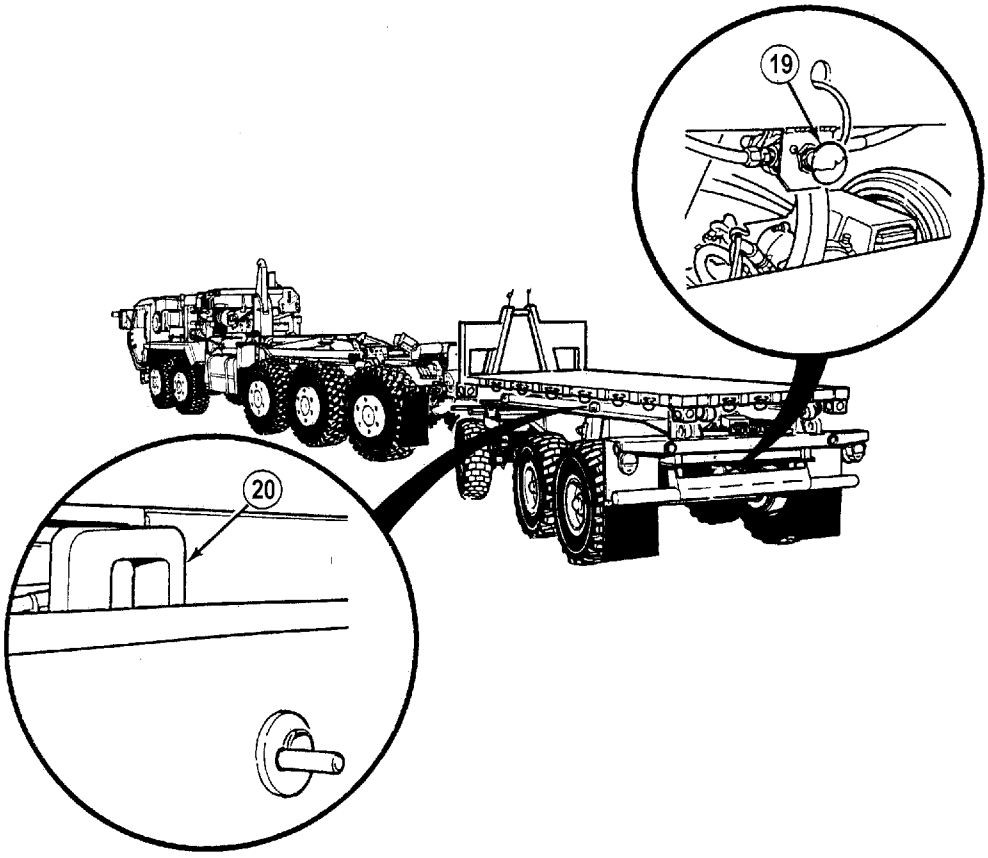
(36) Turn the hydraulic selector switch (2) to MAN TRANS.





(37) Inspect that flatrack is completely seated and load locks (20) are engaged.

i. Removing Flatrack From Trailer in Manual Mode.

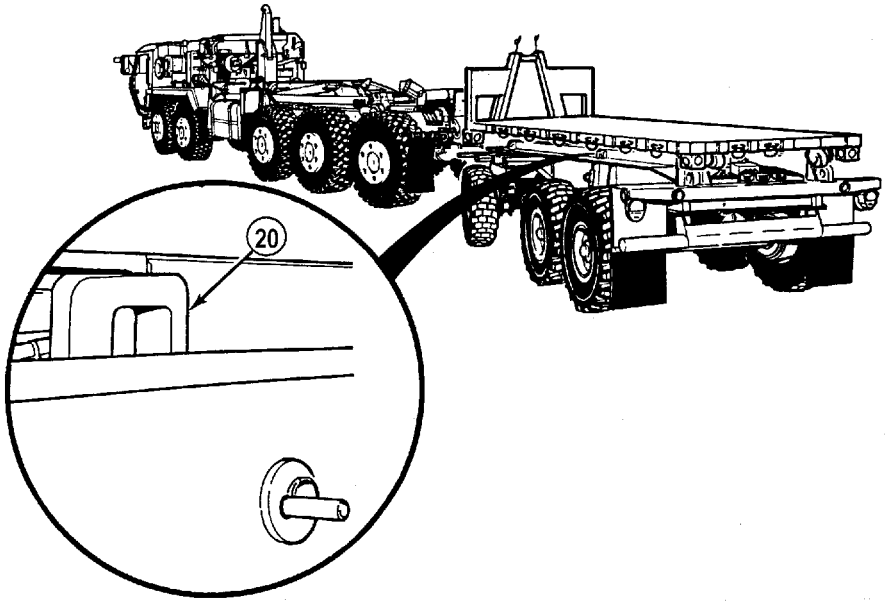


CAUTION

- There must be sufficient air pressure in trailer air system to retract flatrack locks or damage to flatrack lock can occur while attempting to remove flatrack from trailer. If not, use truck to charge trailer air system using trailer air charging hose. If air system cannot retract flatrack locks, use manual flatrack lock retract procedure (TM 9-2330-385-14).
- Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).
- Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.
- If trailer is equipped with trailer drawbar extension kit, drawbar extension must be in stowed position or damage to equipment may result.

(1) Push the knob (19) on trailer to retract flatrack locks (20).

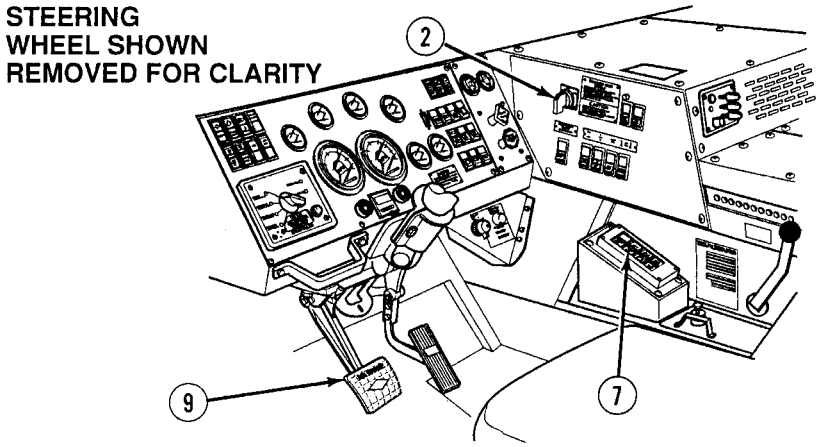
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

Ensure both flatrack locks are fully retracted or damage to equipment may result.

(2) Inspect that both flatrack locks (20) are fully retracted.



(3) Back truck up in line with trailer and stop approximately 5 ft. (1.5 m) from trailer.

(4) Apply the service brake pedal (9) and set transmission range selector (7) to Neutral (N).

WARNING

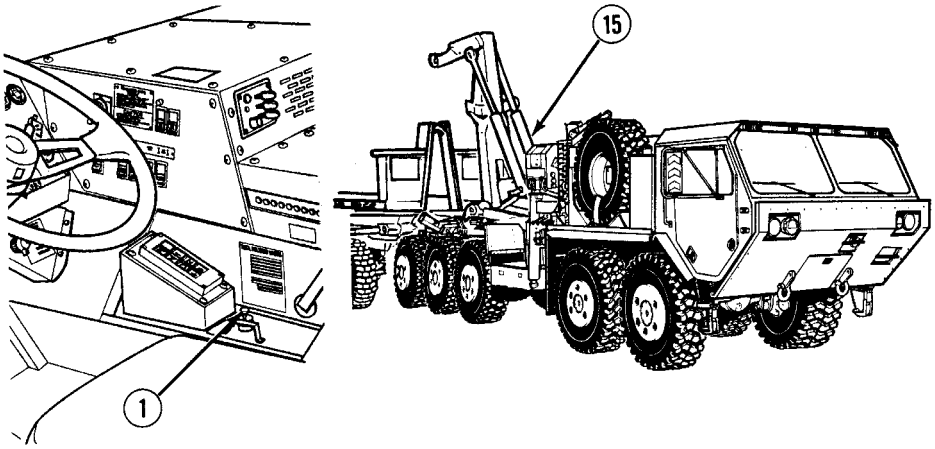
- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(5) Turn the hydraulic selector switch (2) to MAN H.A.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



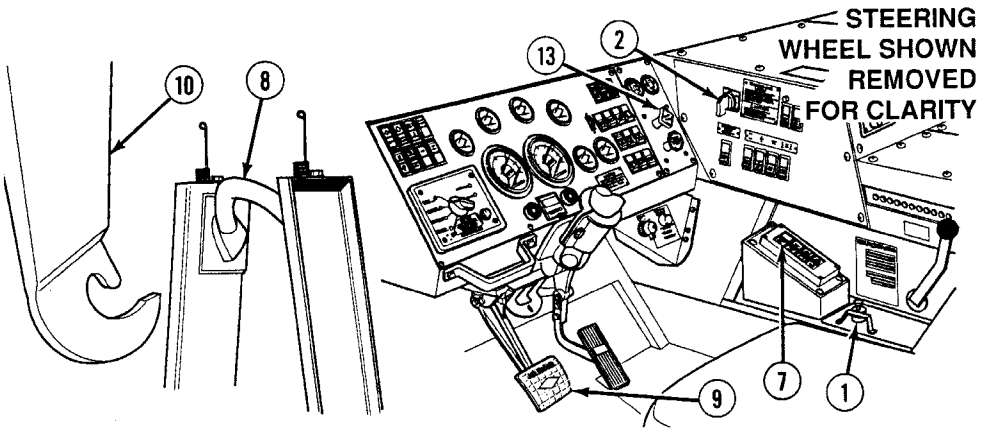
CAUTION

- To avoid equipment damage, visually check that hook arm cylinders have completed full extension.
- To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

NOTE

- Overload warning light will come on when arm cylinders are fully extended and joystick is activated.
- The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

(6) Move the joystick (1) to UNLOAD and hold until hook arm cylinders (15) are fully extended.



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

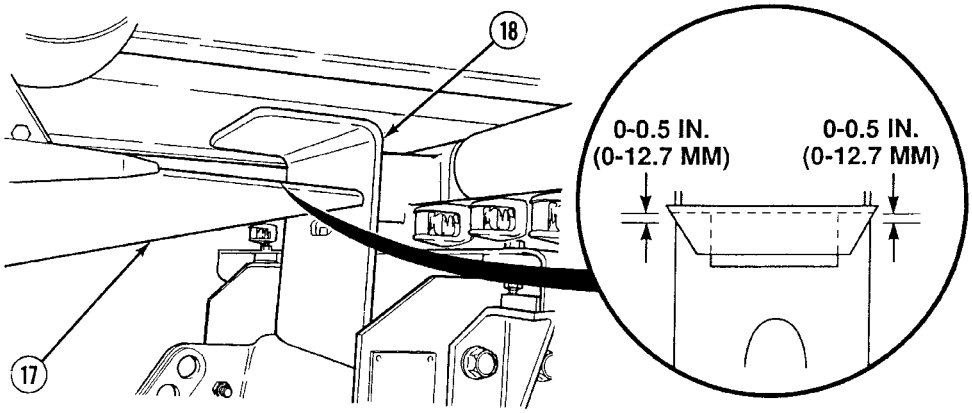
(7) Release the joystick (1) and turn hydraulic selector switch (2) to MAN M.F.

(8) Move the joystick (1) to UNLOAD and hold until lift-hook (10) has moved below level at flatrack hook-bar (8).

(9) Set transmission range selector (7) to Reverse (R) and release service brake pedal (9). Back truck up until lift-hook (10) contacts hook-bar (8).

(10) Apply the parking brake (13).

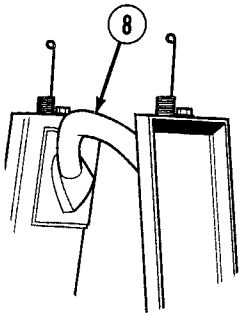
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

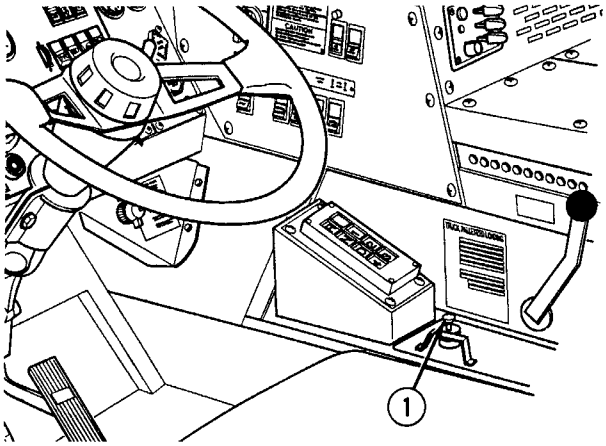


CAUTION

- Ensure that trailer drawbar is down against the ground or damage to equipment may result.
- If trailer is equipped with trailer drawbar extension kit, drawbar extension must be in stowed position or damage to equipment may result.
- Both of the trailer bumper points must be under the truck bumper stop flange and at least one of the bumper points must contact the bumper stop. The trailer bumper point not contacting the truck bumper stop cannot exceed 0.5 in. (12.7 mm) or flatrack will miss main rail guides and equipment damage may result.

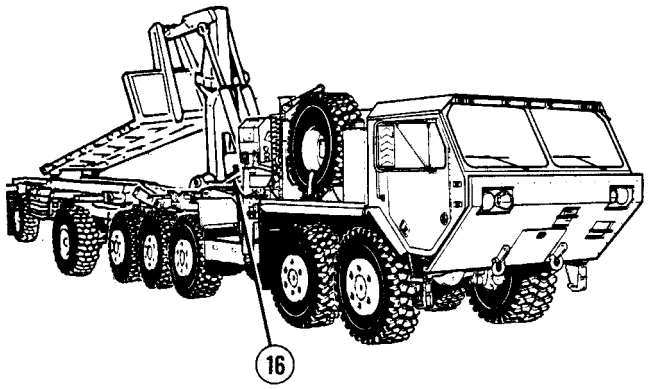
(11) Check that trailer bumper (17) is under flange of truck bumper stop (18).





(12) Move joystick (1) to LOAD and engage hook-bar (8).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



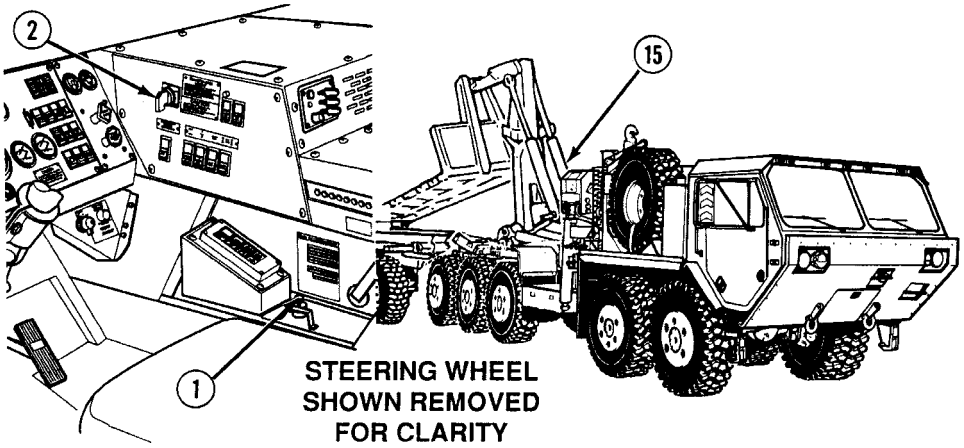
CAUTION

- To avoid equipment damage, visually check that hook arm cylinders have completed full movement.
- To avoid equipment damage, ensure that hook arm cylinders do not complete full movement while operating at engine speeds above idle.

NOTE

Overload warning light will come on when main frame cylinders are fully extended and joystick is being activated.

(13) Continue to load in MAN M.F. mode until the main frame cylinders (16) are fully retracted.



CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(14) Turn the hydraulic selector switch (2) to MAN H.A.

WARNING

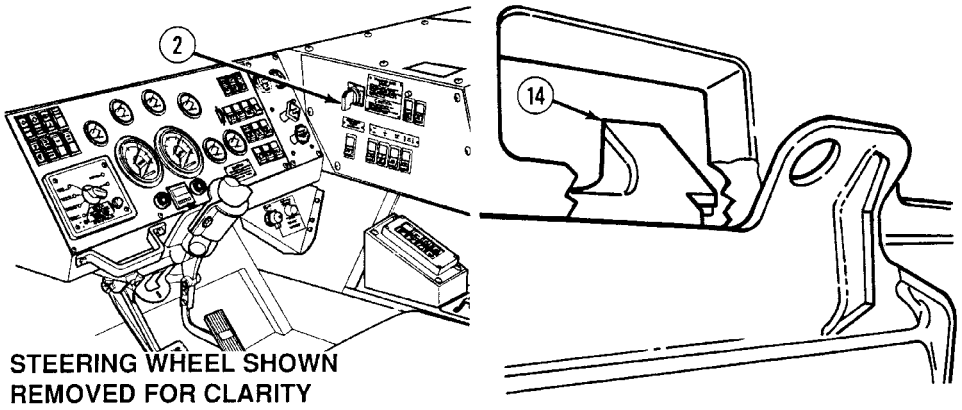
Never drive with NO TRANS light illuminated. An illuminated light means LHS is not fully stowed. The load could break loose causing serious personal injury or death to personnel.

NOTE

Overload warning light will come on when hook arm cylinders are fully extended and retracted and joystick is being activated.

(15) Hold the joystick (1) in LOAD position until hook arm cylinders (15) are fully retracted.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

NOTE

Hydraulic selector switch must remain in MAN TRANS while truck is traveling.

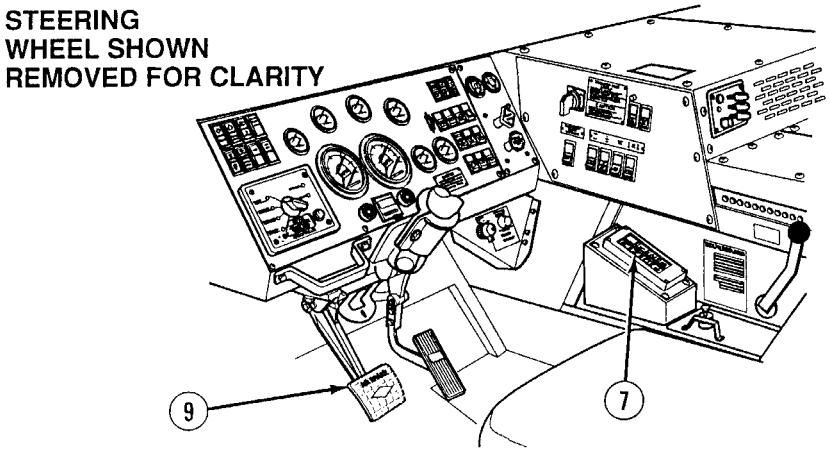
(16) Turn hydraulic selector switch (2) to MAN TRANS.

NOTE

If load locks do not engage, raise flatrack slightly and lower again. Flatrack should seat completely and engage load locks.

(17) Inspect that load locks (14) are engaged and flatrack is fully loaded on truck.

j. Loading Flatrack With or Without Rollers from Dock Area or Bay (Not to Exceed Truck Chassis Height).



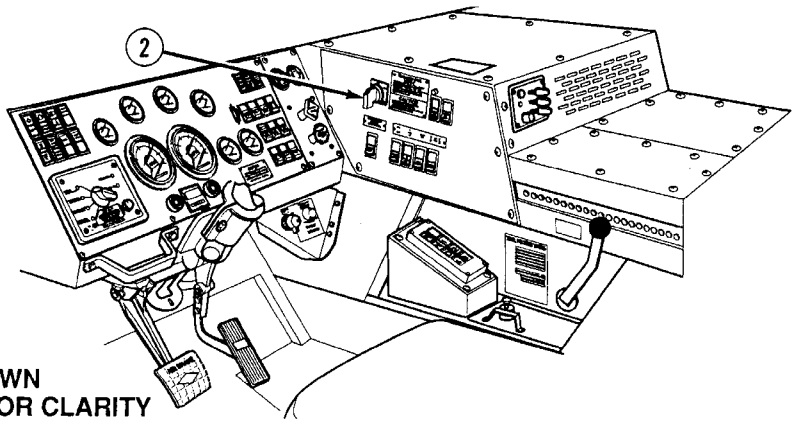
CAUTION

Do not back up to loading docks in which the height of the dock exceeds the height of bottom of the flatrack on the truck, or damage to equipment may result.

(1) Position truck approximately 5 ft. (1.5 m) from front of flatrack.

(2) Apply the service brake pedal (9) and set transmission range selector (7) to Neutral (N).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

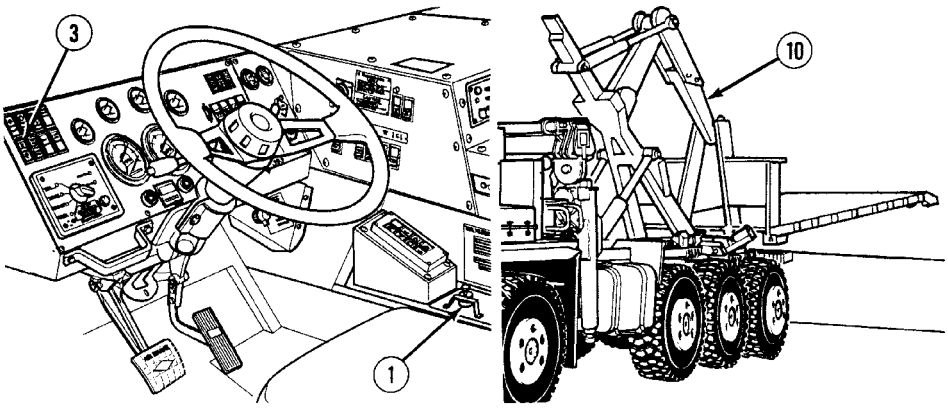
CAUTION

Set engine speed at idle before selecting LHS mode or damage to equipment may result.

NOTE

When loading or unloading flatrack from dock or bay area presence of rollers on rear of flatrack will aid in operation. Procedure can be accomplished using hydraulic selector switch in AUTO or MAN H.A. and MAN M.F. operation. Refer to Para 2-29d and e for movement of LHS in MANUAL mode.

(3) Turn the hydraulic selector switch (2) to MANUAL or AUTO as required.

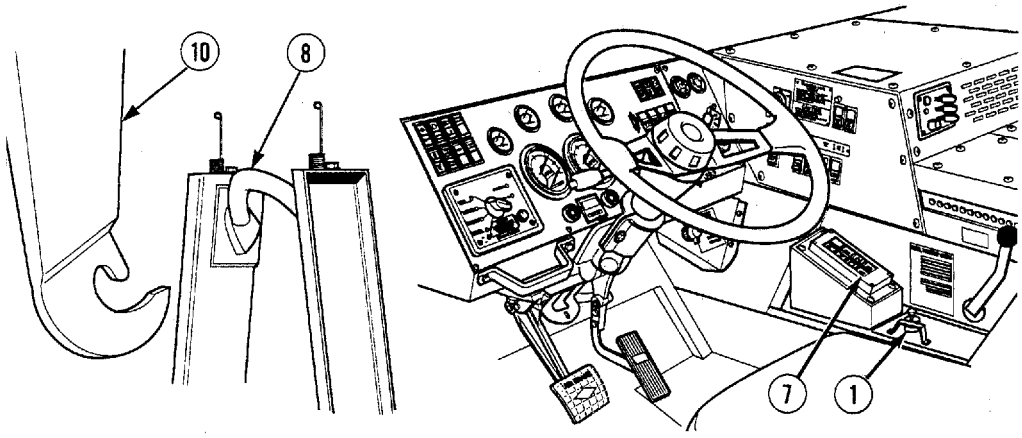


WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

(4) Move the joystick (1) to UNLOAD. Lift-hook (10) will raise and begin to move rearwards. LHS NO TRANS lamp (3) will illuminate to indicate load locks have been cleared.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



(5) When the lift-hook (10) has moved below level of flatrack hook-bar (8), set transmission range selector (7) to Reverse (R) and back truck to flatrack while aligning truck to flatrack as straight as possible (±10 degrees) with lift-hook (10) in middle of hook-bar (8) until lift-hook contacts hook-bar.

(6) Set transmission range selector (7) to Neutral (N).

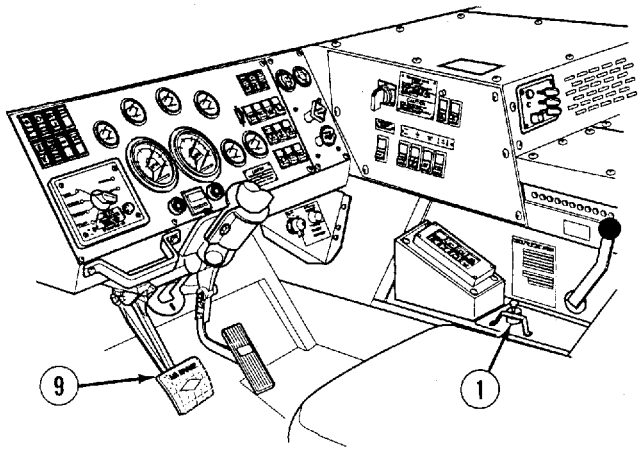
CAUTION

Load must be evenly distributed on the pallet. Uneven load distribution may cause LHS overload indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.

NOTE

Slight misalignment (up to 10 degrees) will not prevent hook from attaching to flatrack.

(7) Move the joystick (1) to LOAD, engaging lift-hook (10) in hook-bar (8) and lift slightly.



CAUTION

If flatrack does not move freely, do not attempt to drag any further or damage to equipment may occur.

NOTE

If flatrack is misaligned, perform Step (8).

(8) Lift flatrack 6 to 12 in. (15 to 30 cm) and attempt to drag flatrack forward 6 to 8 ft. (18 to 24 m) until aligned with truck.

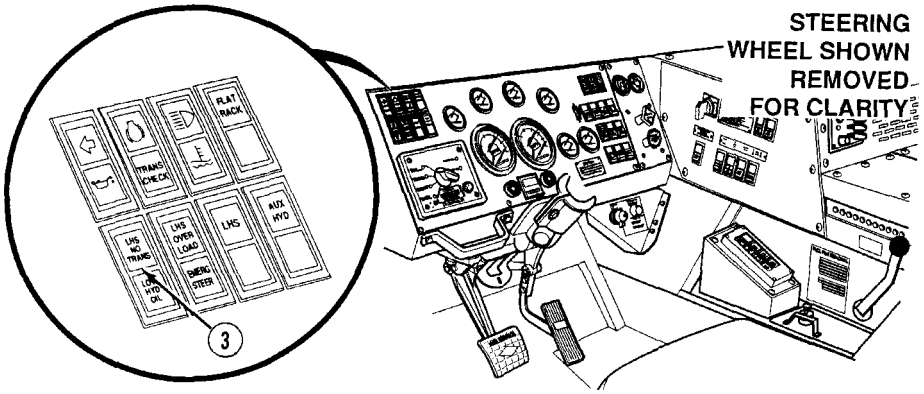
CAUTION

Flatrack must be in contact with rear roller assembly on rear of truck before flatrack rear edge comes off loading bay or dock. Failure to contact rear roller assembly will overload LHS components and may damage truck.

(9) Release the service brake pedal (9) and allow truck to be pulled toward dock or bay until approximately 6 in. (15 cm) away.

(10) Apply the service brake pedal (9) and move joystick (1) to LOAD.

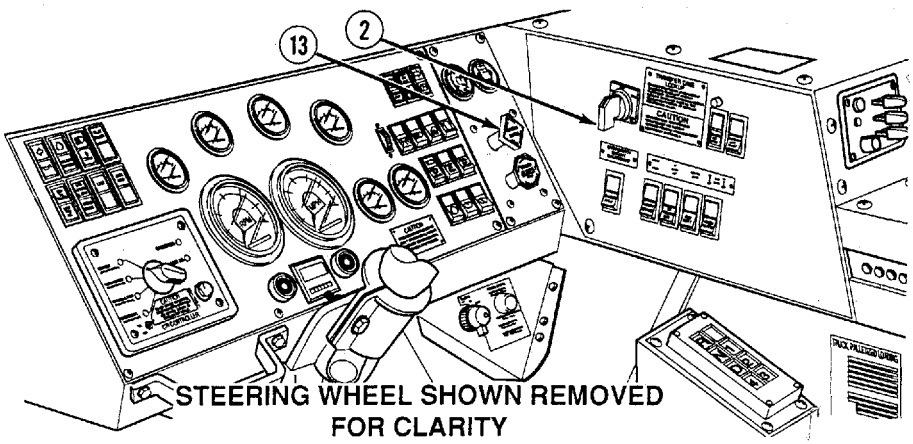
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

- If LHS Overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing its maximum capacity. In this situation, operator should determine if payload is evenly distributed on flatrack or if flatrack load exceeds 16.5 tons (14,969 kg). If any of these conditions exist, operator must redistribute or reduce payload or damage to equipment may result.
- If LHS Overload lamp illuminates and, normal operation has stopped. Return load to original position and redistribute or reduce payload weight or damage to equipment may result.
- Load must be evenly distributed on the pallet. Uneven load distribution may cause LHS overload indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.

(11) Continue loading until LHS NO TRANS (3) light is extinguished indicating LHS load locks have engaged.



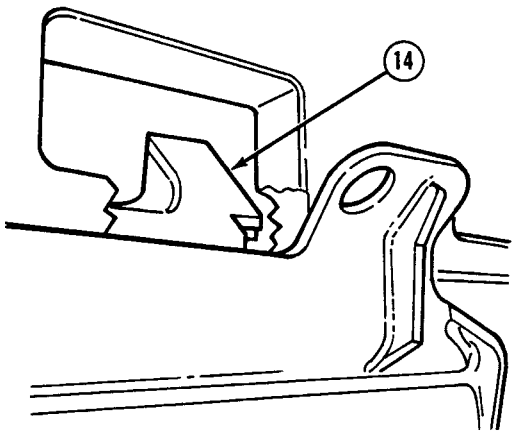
CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(12) Turn the hydraulic selector switch (2) to OFF or MAN TRANS as required.

(13) Apply the parking brake (13).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

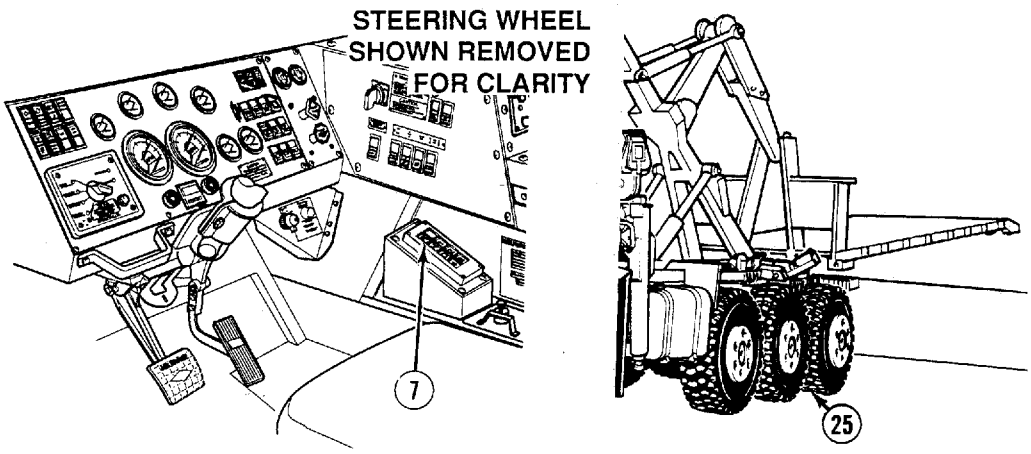


NOTE

If load locks do not engage raise flatrack slightly and lower again. Flatrack should seat fully and engage load locks.

(14) Inspect that load locks (14) are engaged and flatrack is fully seated on truck.

k. Unloading Flatrack With or Without Rollers Onto Dock Area or Bay (Not Exceeding Truck Chassis Height).



CAUTION

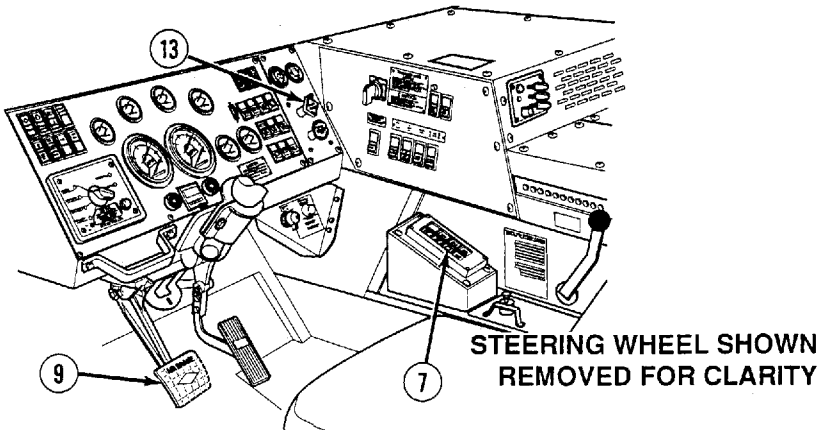
Do not back up to loading docks in which the height of the dock exceeds the height of bottom of the flatrack on the truck, or damage to equipment may result.

NOTE

When loading or unloading flatrack from dock or bay area, presence of rollers on rear of flatrack will aid in operation. Procedure can be accomplished using hydraulic selector switch in AUTO or MAN H.A. and MAN M.F. operation. Refer to Para 2-29d and e for movement of LHS in MANUAL mode.

(1) Set the transmission range selector (7) to Reverse (R) and back truck to dock. Stop truck when rear tires (25) are approximately 6 in. (15 cm) from dock.

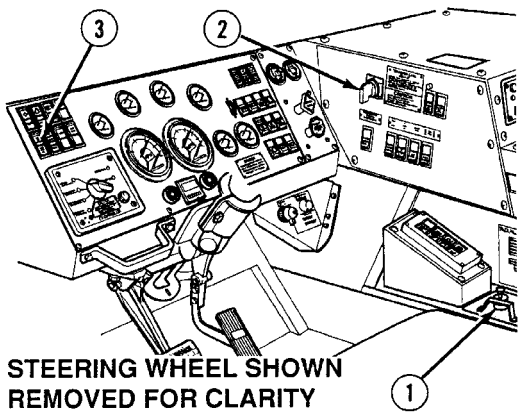
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

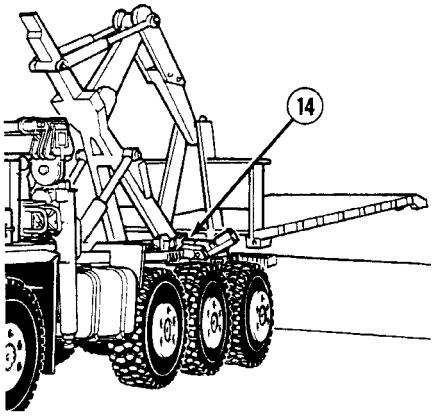


WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

(2) Apply the service brake pedal (9) and set transmission range selector (7) to Neutral (N) and apply parking brake (13).





CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

(3) Turn the hydraulic selector switch (2) to AUTO or MANUAL mode.

(4) Move joystick (1) to UNLOAD. Flatrack will raise and begin to move rearwards. LHS NO TRANS lamp (3) will illuminate to indicate load locks (14) have been cleared.

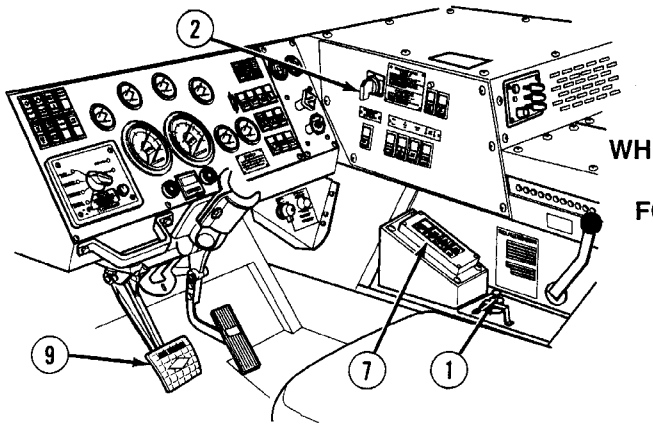
CAUTION

- Do not back truck to push flatrack onto dock or bay. Damage to equipment will result.
- Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

(5) As load continues rearward, flatrack will contact dock and flatrack will be pushed rearward onto dock or bay.

(6) Release the joystick (1).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(7) Turn the hydraulic selector switch (2) to MAN H.A.

(8) Move joystick (1) to LOAD until front of flatrack is raised approximately 15 in. (38 cm) above dock or bay.

(9) Turn the hydraulic selector switch (2) to MAN M.F.

(10) Move the joystick (1) to UNLOAD until flatrack is positioned on dock or bay.

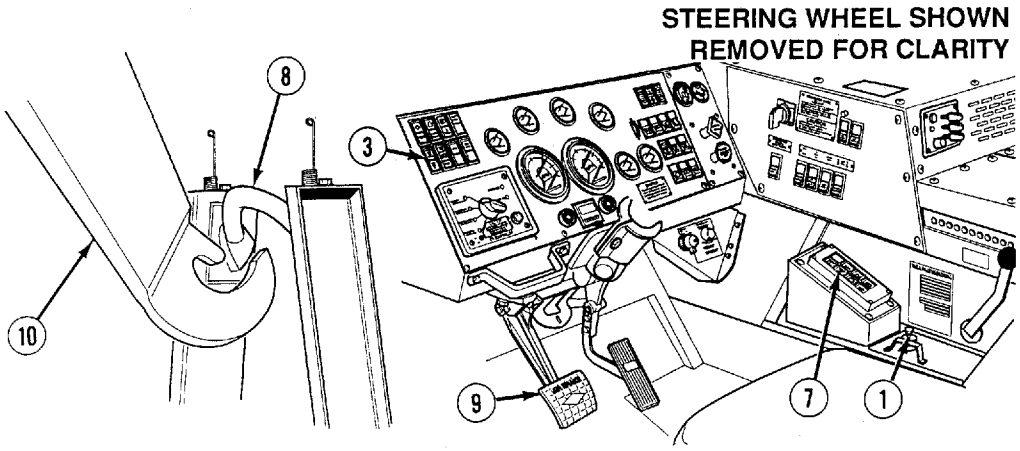
(11) Release the joystick (1).

CAUTION

Before moving truck ensure hook is not engaged to hook-bar or damage to equipment may result.

(12) Apply the service brake pedal (9).

(13) Set the transmission range selector (7) to Drive (D).



NOTE

It may be necessary to repeat Steps (14) through (17) several times to clear hook arm from hook bar.

(14) Move the joystick (1) to LOAD to allow top of lift-hook (10) to clear hook-bar (8).

NOTE

Do not move truck forward more than 3 in. (76.2 mm) to prevent flatrack from pulling over edge of dock.

(15) Release the service brake pedal (9) and place transmission range selector (7) in Drive (D).

(16) Move truck forward approximately 3 in. (76.2 mm) and apply service brake pedal (9).

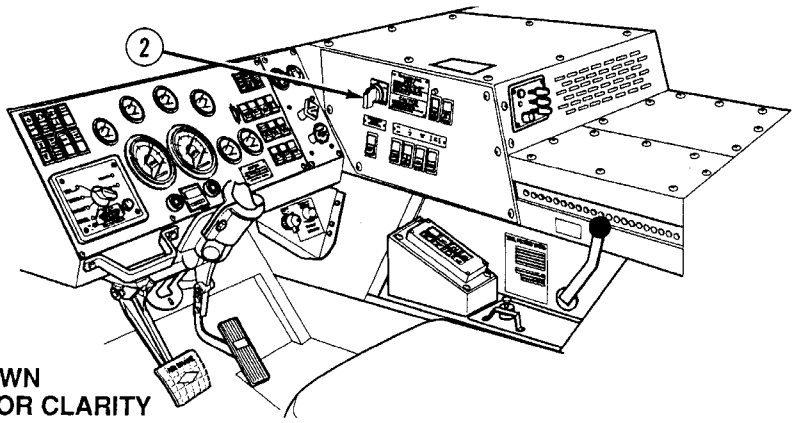
(17) Move the joystick (1) to UNLOAD to disengage hook from hook-bar (8).

(18) Release the service brake pedal (9) and move the truck forward approximately 5 ft. (1.5 m).

(19) Apply service brake pedal (9).

(20) Move joystick (1) to LOAD until LHS NO TRANS light (3) is extinguished indicating LHS is completely stowed.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

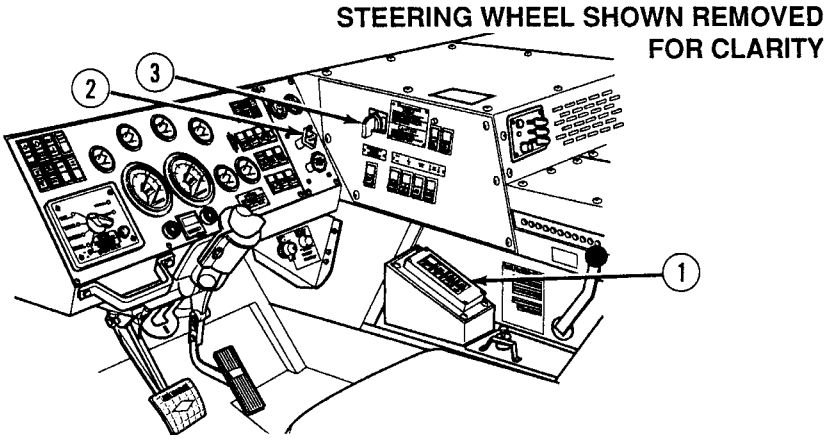
CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(21) Turn hydraulic selector switch (2) to OFF.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS).

a. Prepare Crane For Use.



(1) Start engine (Para 2-15).

NOTE

- If the ground is not level, outrigger jacks can be used to level the truck on up to a seven percent side slope.
- If outrigger pads do not stay in firm contact with ground, crane functions will not operate.

(2) Position truck on level ground so all loading and unloading can be done from one position.

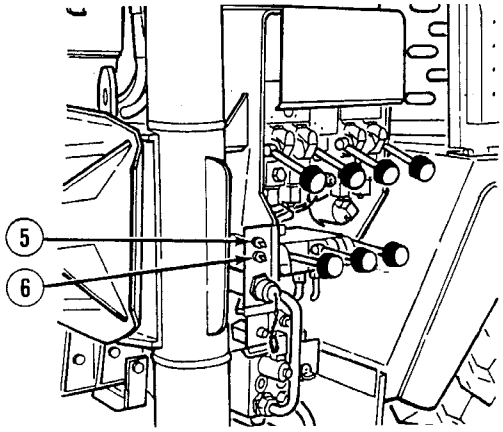
(3) Put transmission range selector (1) in Neutral (N) position and pull PARKING BRAKE control knob (2) out.

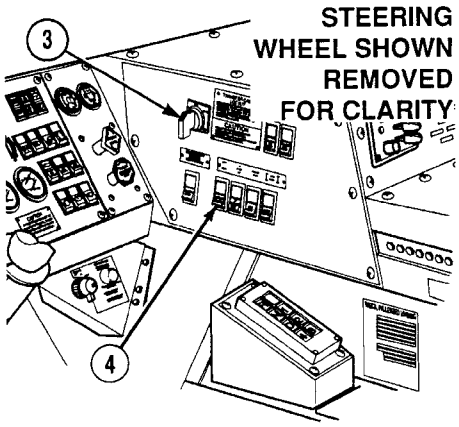
CAUTION

Hydraulic selector switch must be in OFF position before moving selector switch to prevent equipment damage.

(4) Ensure the hydraulic selector switch (3) is in OFF position.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).





WARNING

When operating truck at speeds of 55 mph (89 km/hr) with windows down, or when operating crane, hearing protection must be worn or hearing loss may result.

(5) Push the SRW/CRANE switch (4) to the CRANE position for crane operation.

CAUTION

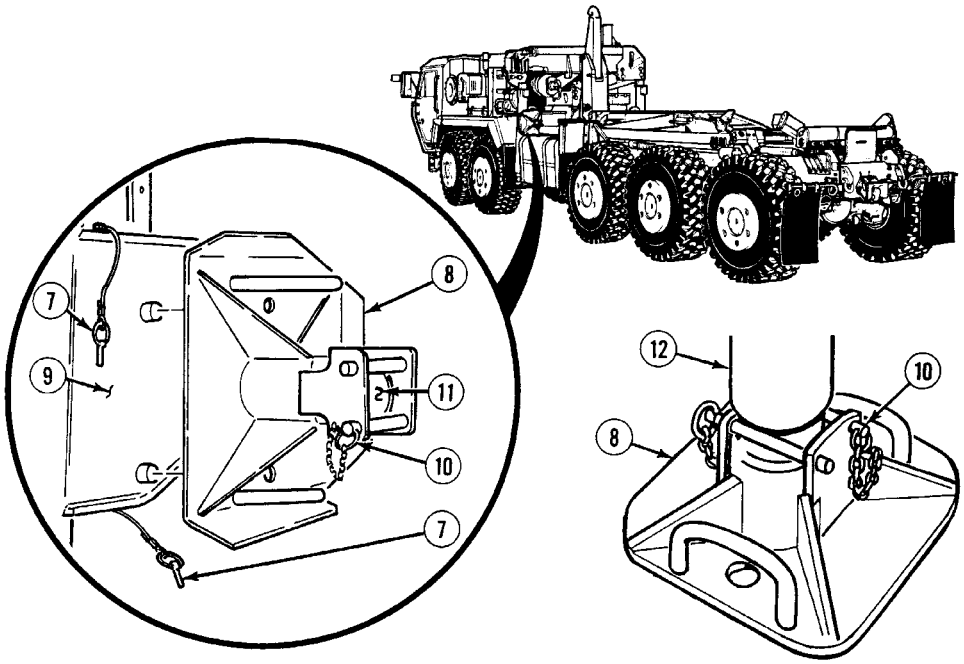
Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(6) Set the hydraulic selector switch (3) to CRANE/SRW position.

(7) Set the CRANE MAIN POWER switch (5) to ON position.

(8) Push the ENGINE HIGH IDLE LATCH switch (6) to LATCH and release.

b. Outrigger Jacks Setup.



WARNING

Use caution when handling outrigger pads. Sharp edges can injure hands.

NOTE

Both outrigger pads are the same. Left side is shown.

(1) Remove two safety pins (7) and remove outrigger pad (8) from crane subframe (9).

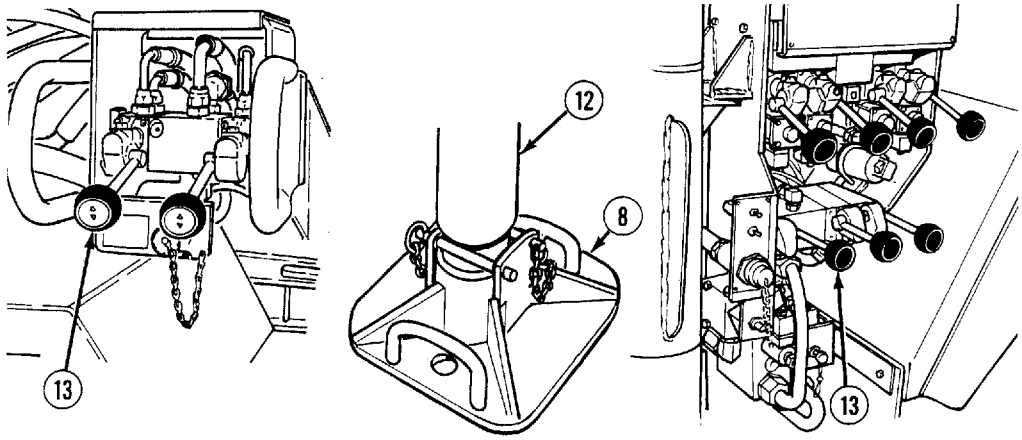
(2) Remove two retaining pins (10) from outrigger pad (8).

(3) Clean all of the foreign material from socket (11) in outrigger pad (8) and from rod end of outrigger jack cylinder (12).

(4) Position the outrigger pad (8) directly below outrigger jack cylinder (12).

(5) Repeat Steps (1) through (4) to set up the outrigger pad (8) on other side.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).



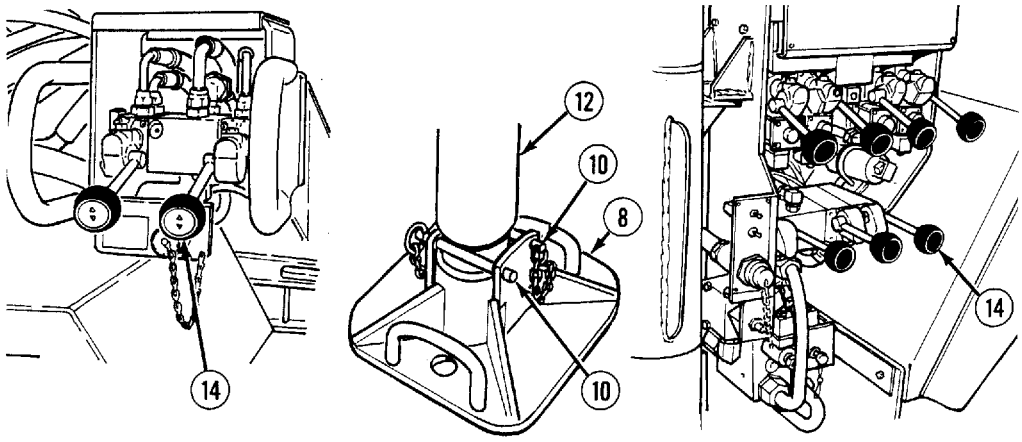
WARNING

- Always use outrigger jack control valve on the same side of the truck as the outrigger jack is being extended or serious personnel injury or death may result.
- Keep hands and feet away from outrigger jack cylinders and outrigger pads while operating outrigger jack levers to avoid injury to personnel.

NOTE

- Adjust outrigger pad position as required so ball end will lower into pad socket.
- Outrigger jacks will come down slower with light pressure on lever. Pushing lever to full travel will cause faster movement.

(6) Move left outrigger jack (LH O/R JACK) control lever (13) (on left side of truck) to DOWN position and lower outrigger jack cylinder (12) until ball end is seated in outrigger pad (8).

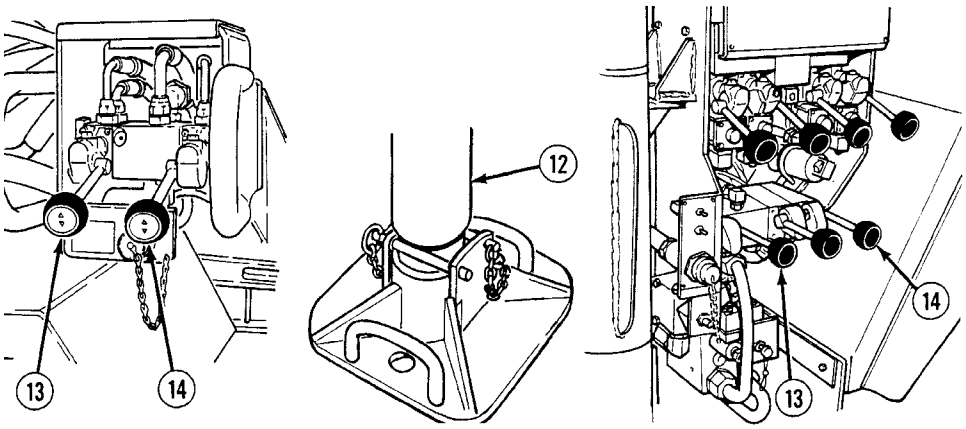


(7) Install retaining pins (10) in outrigger pad (8).

(8) Move right outrigger jack (RH O/R JACK) control lever (14) (on right side of truck) to DOWN position and lower outrigger jack cylinder (12) until ball end is seated in outrigger pad (8).

(9) Install retaining pins (10) in outrigger pad (8).

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).



WARNING

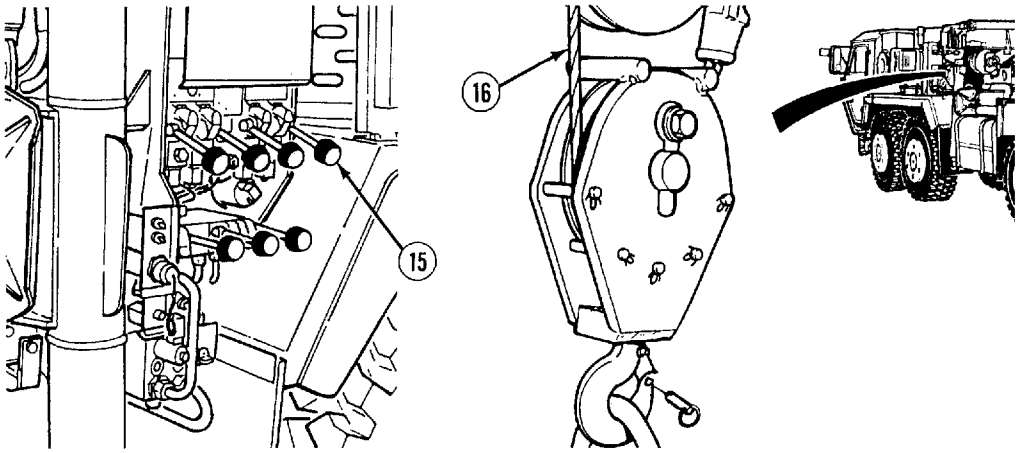
Outrigger jack cylinders must be extended to remove enough weight from the suspension so that the tires do not bulge, or truck could roll over, causing serious injury or death.

NOTE

- Operate left and right outrigger jack (LH O/R JACK and RH O/R JACK) control levers at same time.
- Crane movement from one lever may be slower than the other when operating two levers together.
- Truck weight should be off suspension at least until tires do not bulge from weight of truck.
- Outrigger jacks must properly support truck or crane functions will not operate.
- If outrigger jacks depress into ground beyond outrigger pad retaining pins, reposition truck.

(10) Move left outrigger jack (LH O/R JACK) and right outrigger jack (RH O/R JACK) control levers (13) and (14) to DOWN position. Lower left and right outrigger jack cylinders (12) until truck weight is off suspension. Extend jacks individually as necessary to level the truck side-to-side.

c. Raise and Operating Crane.



WARNING

- Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death.
- Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death.

CAUTION

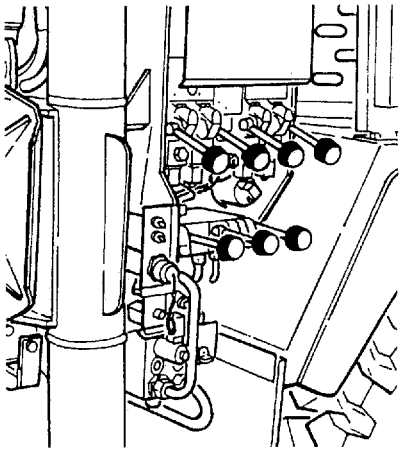
Do not let cable unwind and become slack or cable may get tangled on hoist drum.

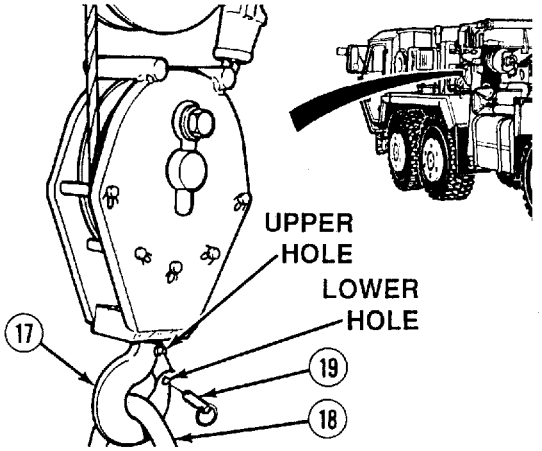
NOTE

Crane will not operate unless outrigger jacks are firmly in place.

(1) Move HOIST control lever (15) to DOWN position and lower hoist cable (16) approximately 4 in. (101.6 mm).

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).



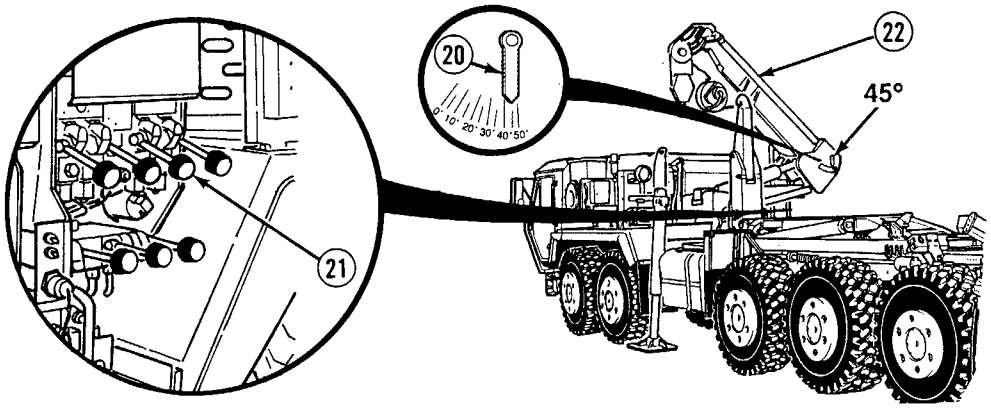


WARNING

Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.

(2) Pull lock pin (19) from lower hole and install in upper hole.

(3) Disconnect load hook (17) from hook block tiedown (18).



WARNING

- Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death.
- Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death.

CAUTION

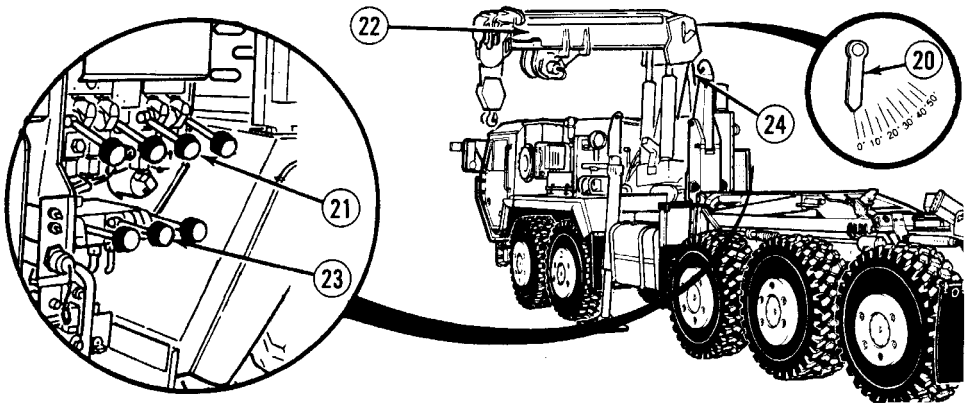
Do not operate mast control lever until boom is raised approximately 45 degrees. Otherwise, boom nose can be driven down into crane structure and damage will result.

NOTE

Mast will not erect if boom angle is significantly greater than 45 degrees.

(4) Observe boom angle indicator (20) and operate BOOM control lever (21) in UP position until boom (22) is approximately 45 degrees above horizontal.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).

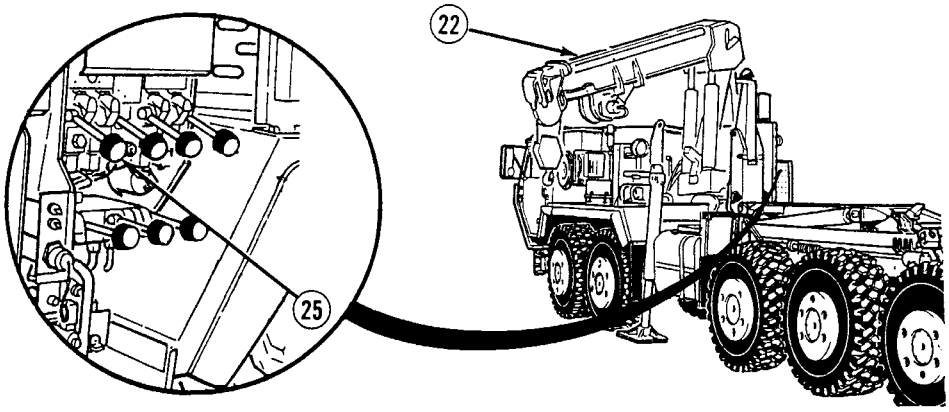


CAUTION

Failure to extend mast fully before load is lifted may result in mast cylinder seal damage.

(5) Operate MAST control lever (23) in UP position until mast (24) is fully extended and boom (22) is approximately in a horizontal position.

(6) Move BOOM lever (21) until indicator (20) reads 0 degrees.



WARNING

- Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.
- Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slowly enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.
- Operator must keep control of load at all times. If necessary, attach cargo tiedowns to load for use as a control tether. Load moving out of control could cause serious injury or death.

CAUTION

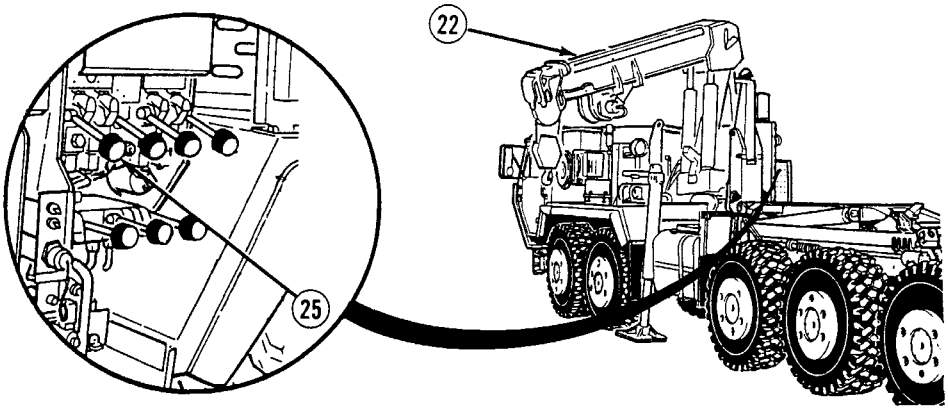
Boom must be above hook arm, flatrack and truck load for clearance. Hitting obstacles with boom may cause damage to boom or truck.

NOTE

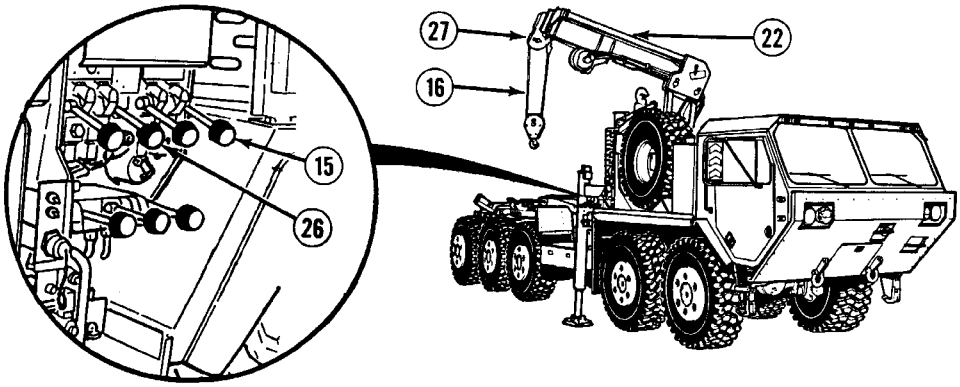
Operate control levers with light, even pressure. Moving lever slightly will cause slow movement of crane. Moving lever to full travel will cause faster movement of crane.

(7) Move SWING control lever (25) to CCW position to move boom (22) counterclockwise.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).



(8) Move SWING control lever (25) to CW position to move boom (22) clockwise.



WARNING

When operating two control levers at the same time, if one function is held wide open and "dead-headed" (i.e. cylinder is fully extended) and another function is operated, the second function can operate at a greater than normal speed, which could cause loss of control and serious injury or death to personnel.

CAUTION

- Keep hook block at least 2 ft. (0.61 m) from end of boom. If hook block hits end of boom it may damage cable or hook block and crane will lose control functions. Lower hook block and wait six seconds for power to return, then check crane for damage.
- Do not jerk TELESCOPE control lever or load may bounce causing possible damage to crane or load and causing overload shutdown system to activate.
- Do not let cable unwind and become slack or cable may get tangled on drum and cause damage to drum.

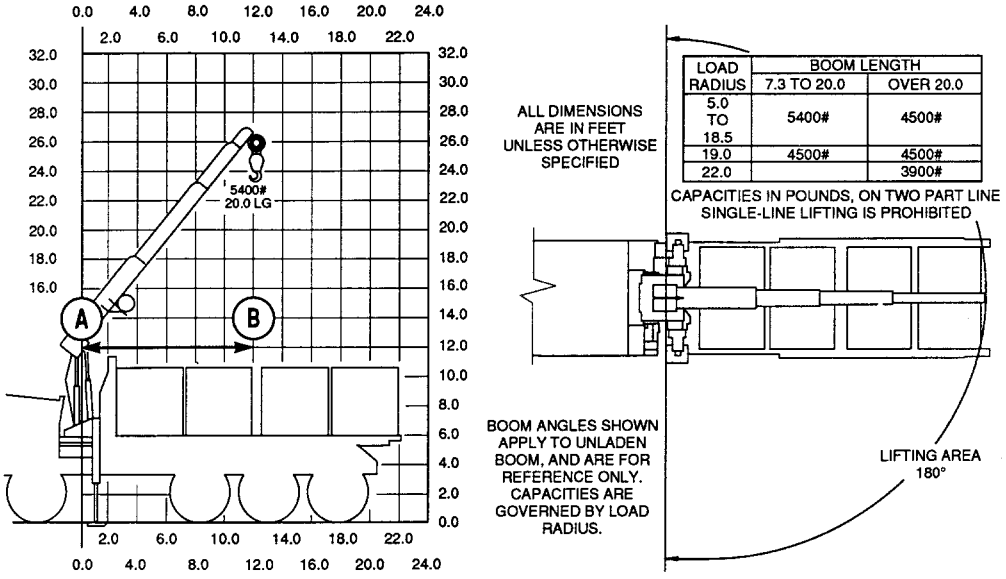
NOTE

TELESCOPE and HOIST control levers should be operated at same time.

(9) Move TELESCOPE control lever (26) to OUT position to extend boom (22) while moving HOIST control lever (15) to DOWN position to pay out hoist cable (16). This prevents hook block from contacting boom nose (27).

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).

RANGE DIAGRAM PLS



CAUTION

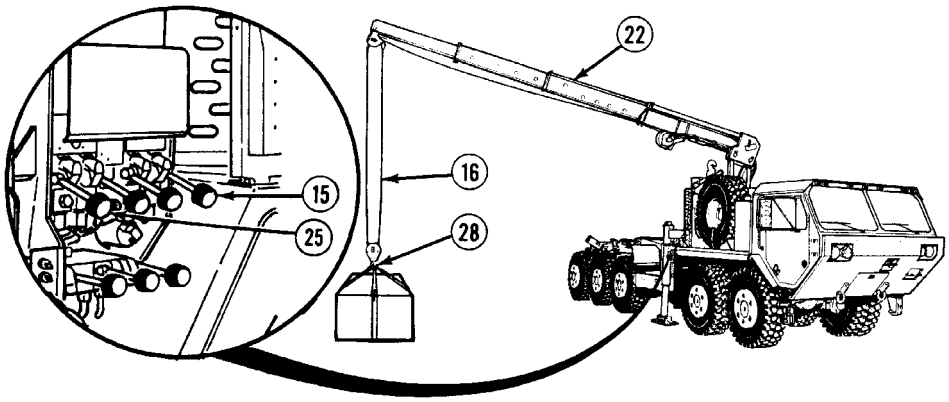
Do not attempt to lift more than maximum load rating as shown in RANGE DIAGRAM. Exceeding load ratings will cause damage to equipment.

NOTE

- Boom length is indicated on side of boom as it is extended.
- Load radius is measured from MHC pivot point to load hook. (Measurement must be taken parallel to truck, point A to point B.)
- Numbers along top and bottom of diagram refer to load radius. Numbers along side of diagram refer to working height. For example: Boom length is at 20 ft. (6 m) as indicated on side of boom. Load radius is 12 ft. (4 m) as measured from point A to point B. Chart on right indicates a maximum lift of 5,400 lbs. (2,452 kg).

(10) Refer to RANGE DIAGRAM data plate above RH Crane Control Panel to move boom to correct load radius before connecting to load.

d. Raise and Lower Load.



WARNING

- Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.
- Load hook must not extend beyond attaching point of load. When lifting load, boom will deflect slightly and load radius will increase depending on length of boom and weight of load. Boom deflection may cause load to swing out and cause injury or death to personnel and/or damage to equipment.

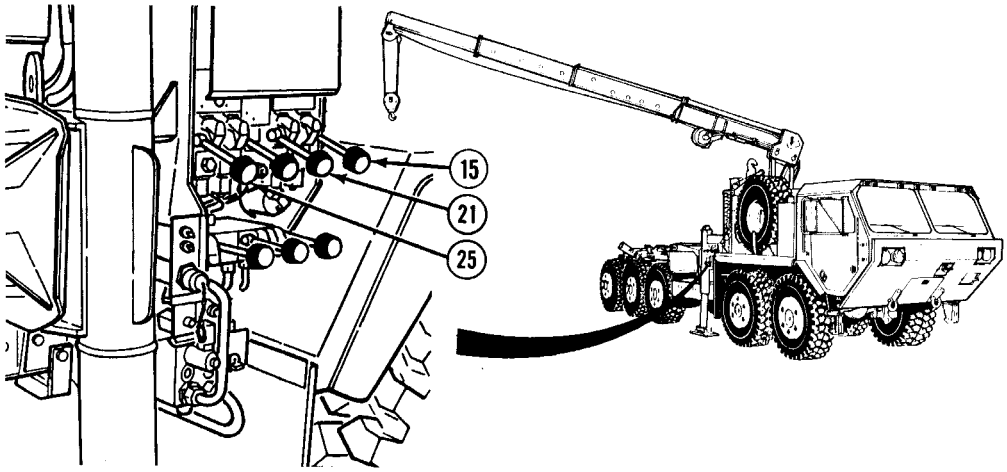
CAUTION

- Do not let cable become slack or cable may get tangled on drum.
- Do not drag load on ground or damage to crane may result.

(1) Operate the SWING control lever (25) and center end of boom (22) directly over load.

(2) Operate the HOIST control lever (15) to raise or lower hoist cable (16) and connect load hook (28) to load.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).

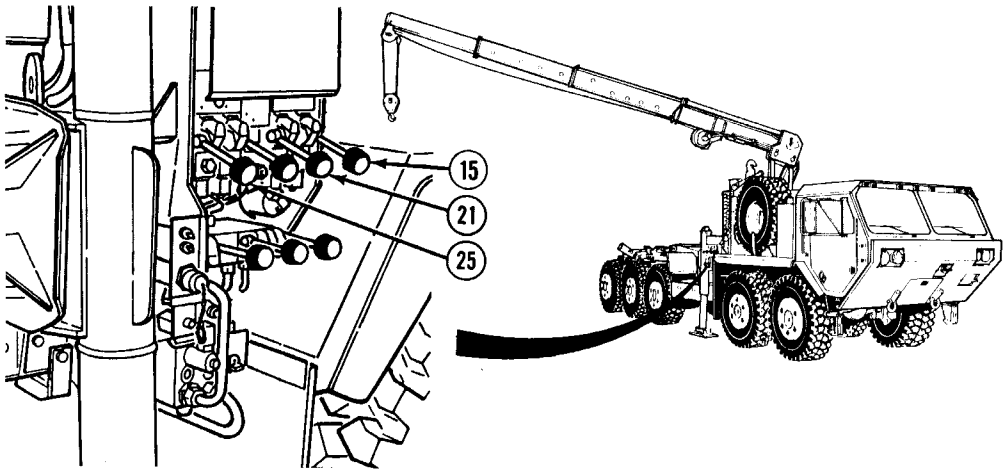


WARNING

Ensure there are at least two wraps of cable on hoist drum at all times. Serious injury or death could result if cable comes off hoist drum while lifting load.

CAUTION

- Do not jerk HOIST control lever or load will bounce causing possible damage to crane or load, and causing overload shutdown to operate.
- Use the PLS range diagram and know the weight of the load before hoisting the load, or equipment damage may result.



NOTE

- When crane is overloaded, the overload shutdown system will automatically shut off power to Telescope Boom Out, Boom Up Boom Down and Hoist Up functions. Overload condition can be corrected by using Hoist Down function to lower load to ground or other supporting surface. All crane functions will be restored in about six seconds, after overload condition is eliminated.
- It is normal for fluctuation of the engine rpm to occur whenever a change in load on the engine occurs.

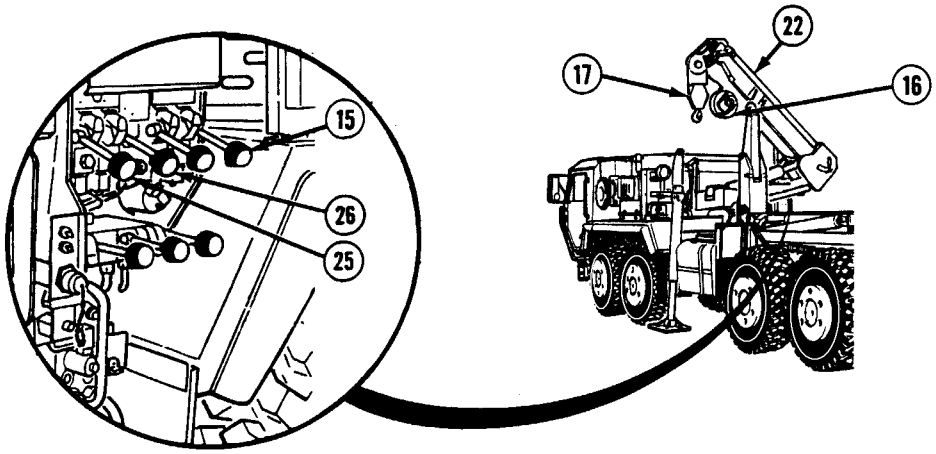
(3) Move HOIST control lever (15) to UP position to lift load. Move BOOM control lever (21) to UP position to raise load and bring load closer to crane. Use SWING control lever (25) to rotate crane to desired location to deposit load.

(4) Move HOIST control lever (15) to DOWN position to lower load. Move BOOM control lever (21) to DOWN position (telescope function can also be used to adjust the load position for setting down) to lower load and move load away from crane.

(5) Shut down crane (Para 2-30e).

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).

e. Shut Down Crane.



CAUTION

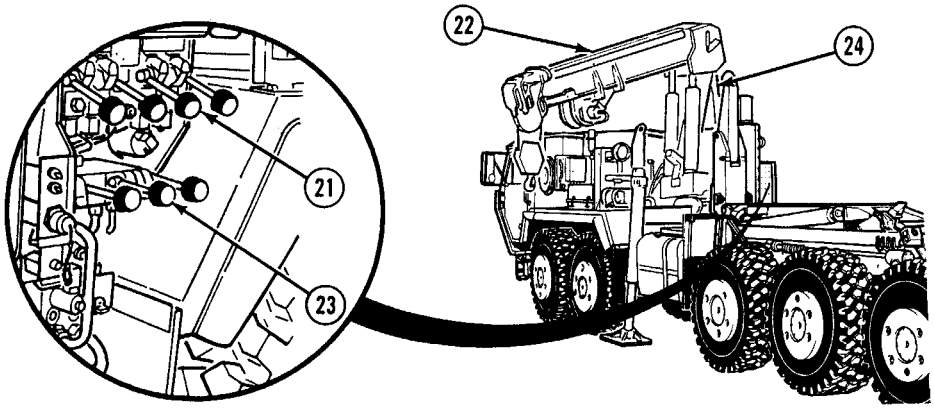
- If the crane main power switch has been temporarily turned OFF following crane operations, repower the crane and reset engine high idle according to instructions (Para 2-30a). Otherwise, proceed as follows:
- Leave approximately 2 ft. (0.61 m) of cable between boom sheave and hook block when reeling in cable or damage to equipment could result.
- Do not let cable unwind and become slack or cable may get tangled on drum and cause damage to drum.

NOTE

TELESCOPE and HOIST control levers should be operated at same time.

(1) Move the TELESCOPE control lever (26) to IN position to pull boom extensions (22) in and move HOIST control lever (15) to UP position to reel in hoist cable (16) until boom extensions are fully retracted and load hook (17) hangs approximately 8 in. (203.2 mm) below boom nose.

(2) Operate the SWING control lever (25) to align hook block with hook block tiedown.



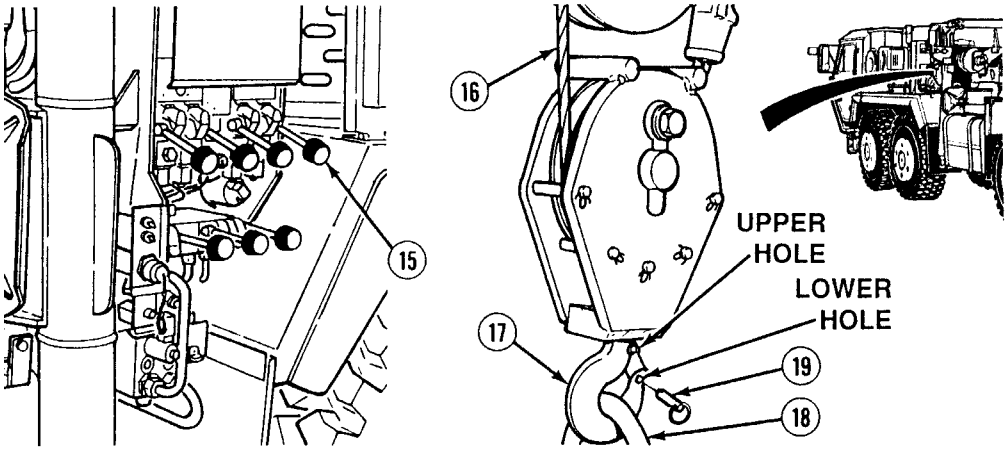
CAUTION

- Boom must rest on rest pad when transporting truck. If not, damage to truck can result.
- When lowering mast, boom must align with hook and hook block tiedown or mast may contact muffler and boom may contact LHS hook arm, flatrack or truck. Damage to truck may result.
- Do not lower mast and boom at the same time. Mast must be completely folded down before lowering boom, otherwise boom nose will be driven down into the crane structure and damage will result.

(3) Move the MAST control lever (23) to DOWN position to lower mast (24) until mast is completely folded down.

(4) Move the BOOM control lever (21) to DOWN position until boom (22) comes to rest on mast rest pad.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).

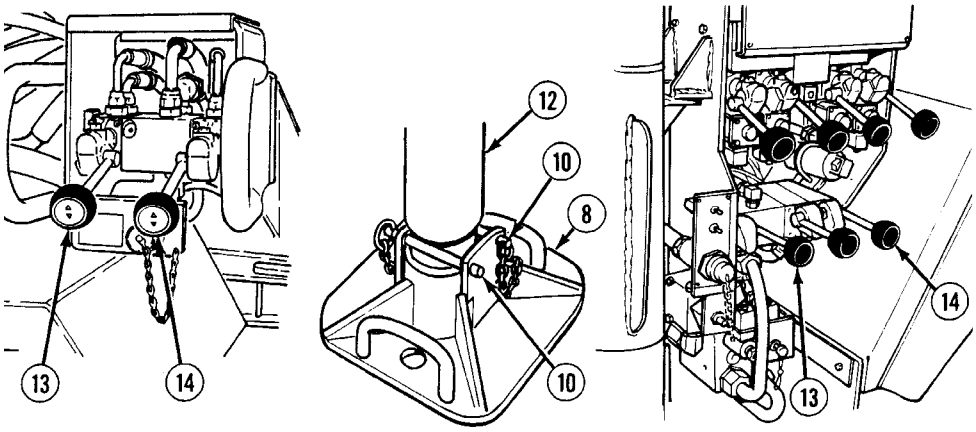


CAUTION

If hoist cable has excessive tension when crane is stowed, boom nose will contact hook block during driving operations and damage will result.

(5) Connect load hook (17) to hook block tiedown (18). Remove pin (19) from upper hole and install in lower hole. Move HOIST control lever (15) to UP position to remove slack from hoist cable (16).

f. Stow Outrigger Jacks.



(1) Remove two retaining pins (10) from each outrigger pad (8).

WARNING

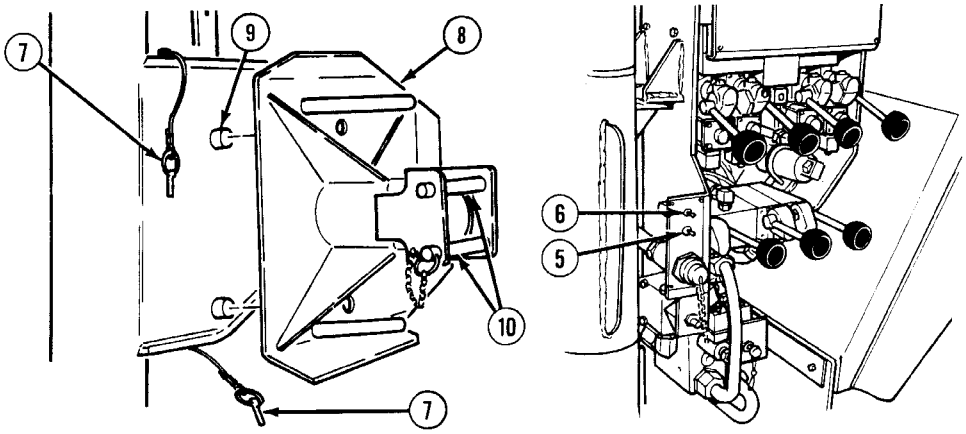
Keep hands and feet away from outrigger jack cylinders and outrigger pads while operating outrigger jack levers to avoid injury to personnel.

NOTE

Operate left and right outrigger jack (LH O/R JACK and RH O/R JACK) levers at the same time until both outrigger jack cylinders are out of pads.

(2) Move the left outrigger jack (LH O/R JACK) and right outrigger jack (RH O/R JACK) control levers (13) and (14) to UP position to retract outrigger jack cylinders (12) completely.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).



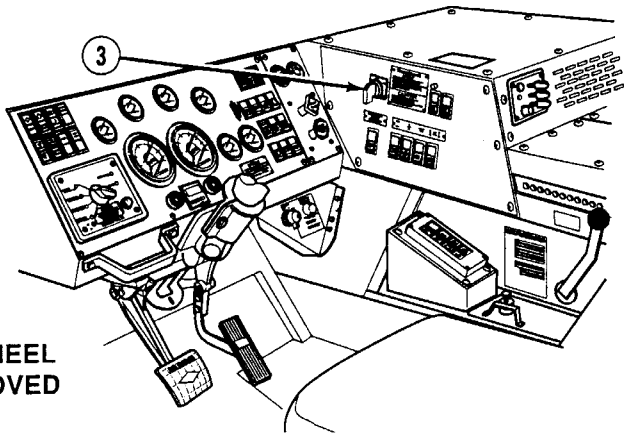
(3) Install two retaining pins (10) in outrigger jack pads (8).

(4) Stow the outrigger jack pads (8) on crane subframe (9).

(5) Install the safety pins (7) through crane subframe (9).

(6) Push the ENGINE HIGH IDLE latch switch (6) to UNLATCH position and release.

(7) Turn the crane main power switch (5) to OFF position.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

(8) Set the hydraulic selector switch (3) in OFF position.

(9) Shut off engine (Para 2-15).

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROL).

a. Set Up Remote Control Unit.

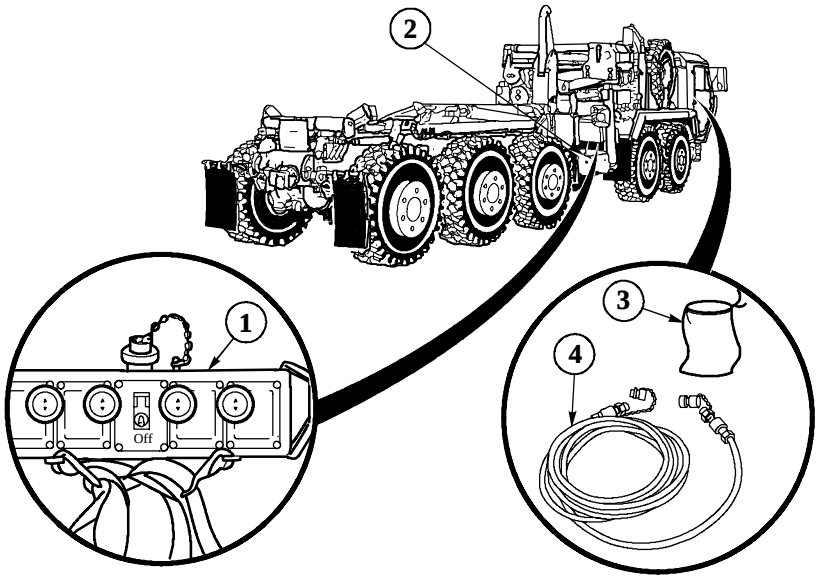
WARNING

- Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death.
- When operating crane, hearing protection must be worn or hearing loss may result.

(1) Prepare crane for use (Para 2-30).

(2) Set up outrigger jacks (Para 2-30).

(3) Raise crane to operating position (Para 2-30).

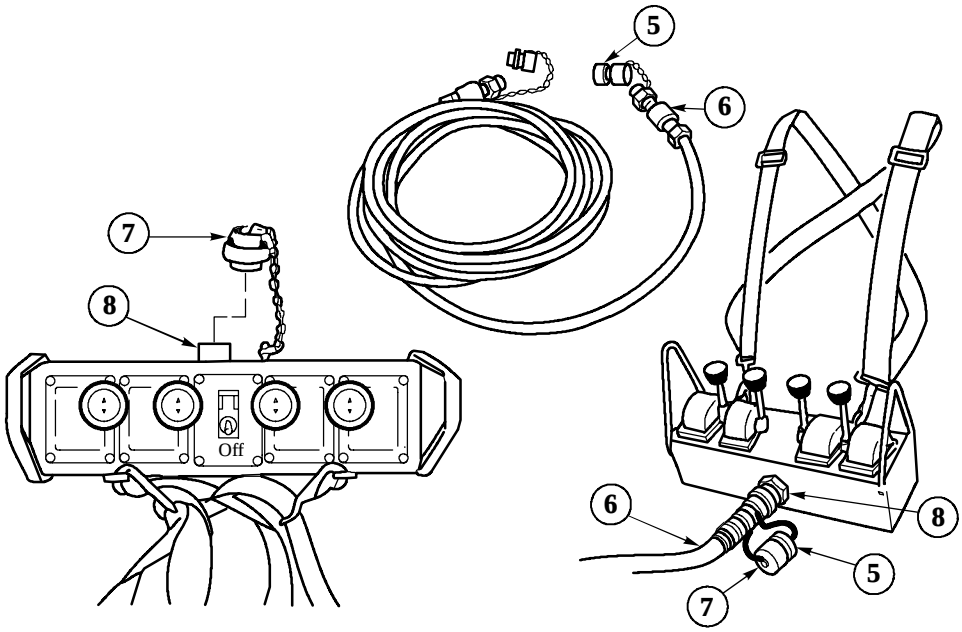


(4) Remove the REMOTE CONTROL UNIT (1) from stowage box (2).

(5) Remove remote control cable bag (3) from behind passenger seat.

(6) Remove remote control cable (4) from bag (3).

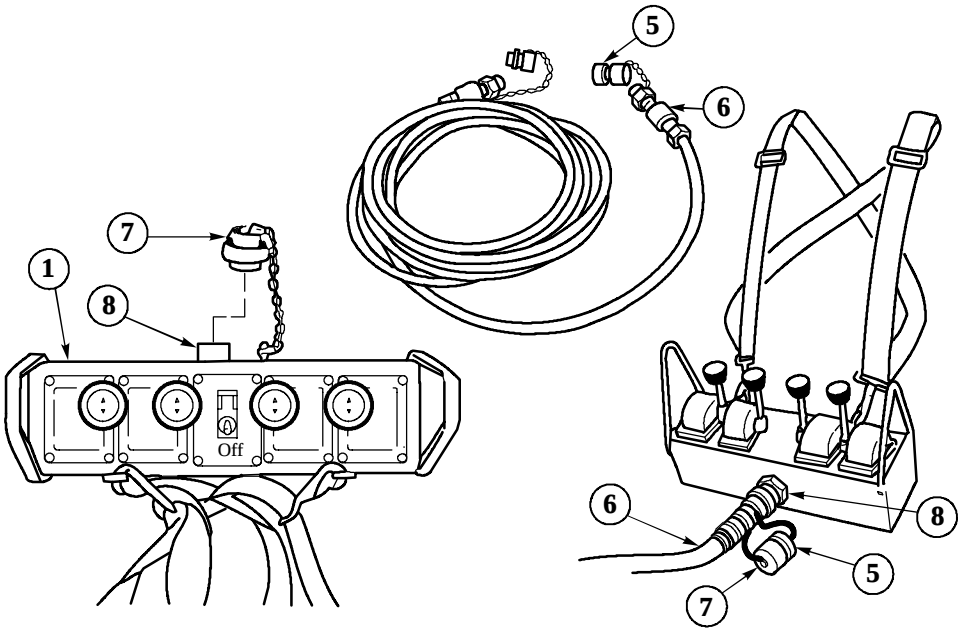
2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).



CAUTION

Covers should be removed from cable and remote just before they are hooked together to avoid contamination.

(7) Remove the cover (5) from cable connector (6) and cover (7) from REMOTE CONTROL UNIT receptacle (8).



WARNING

Shut off and remove REMOTE CONTROL UNIT from around neck and shoulders prior to climbing on truck, flatrack or load or serious injury or death to personnel may result.

NOTE

REMOTE CONTROL UNIT straps may be crisscrossed in either front or rear for operator comfort.

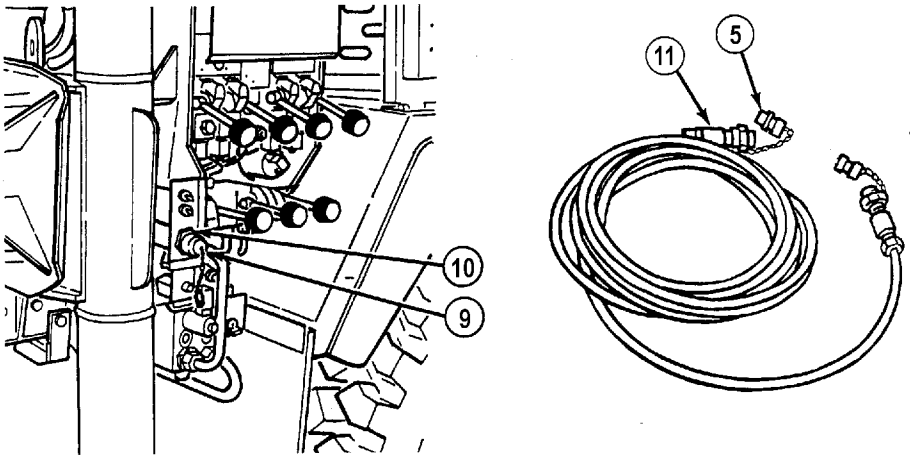
(8) Position the REMOTE CONTROL UNIT strap around neck and over shoulders to wear REMOTE CONTROL UNIT (1).

(9) Connect the cable connector (6) to REMOTE CONTROL UNIT receptacle (8).

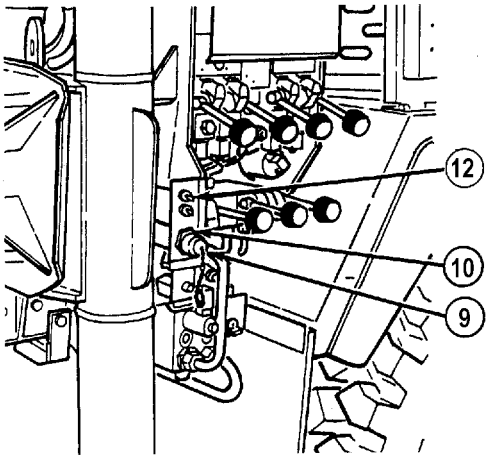
(10) Connect the cover (7) of REMOTE CONTROL UNIT receptacle (8) to the cover (5) of cable connector (6).

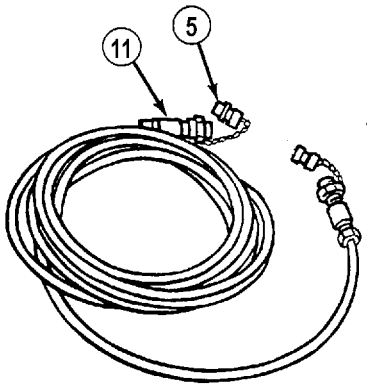
2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).

b. Connect Remote Control Unit to Right Hand Outlet.



(1) Remove cover (9) from RH REMOTE CONTROL CONNECTOR outlet (10) and remove cover (5) from other end of cable connector (11).





WARNING

- Ensure REMOTE CONTROL/EMERGENCY STOP/ON/OFF power switch is in OFF position, switch guard is closed, control levers rotate freely and are in the neutral position before connecting REMOTE CONTROL UNIT. Crane moving out of control could cause serious injury or death.
- If electrical power fails during crane operation, move switch on REMOTE CONTROL UNIT to SHUTDOWN position. Serious injury could result from uncontrolled moving parts.

NOTE

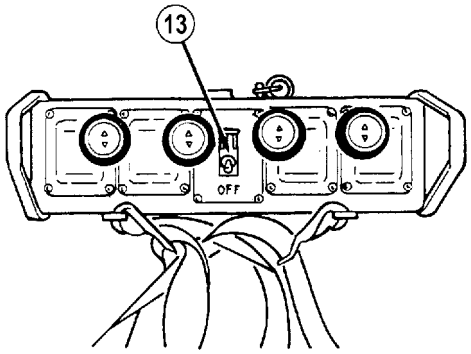
Idle speed will decrease when REMOTE CONTROL UNIT is plugged in.

(2) Connect the cable connector (11) to RH REMOTE CONTROL CONNECTOR outlet (10).

(3) Connect the cover (9) of RH REMOTE CONTROL CONNECTOR outlet (10) to the cover (5) from cable connector (11).

(4) Ensure crane power switch (12) is ON.

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).

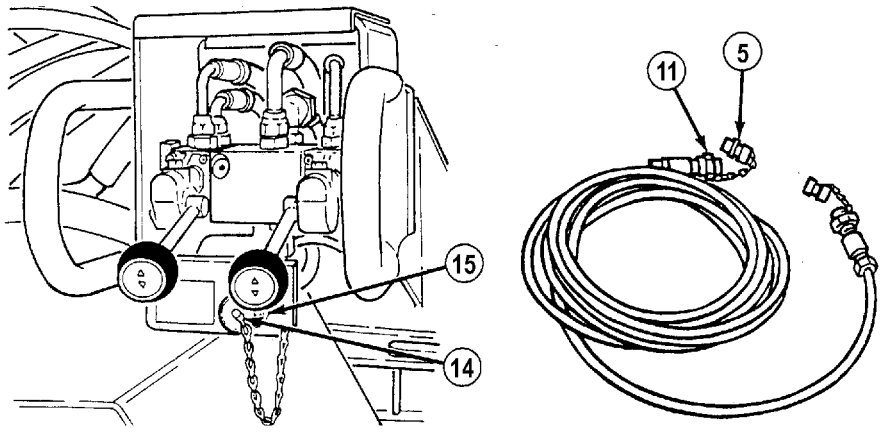


NOTE

- Closing the switch guard of the EMERGENCY STOP ON/OFF switch will activate the emergency stop.
- Turning switch to ON will automatically engage high idle.

(5) Set the REMOTE CONTROL EMERGENCY STOP ON/OFF power switch (13) to ON position.

c. Connect Remote Control Unit to Left Hand Outlet.



CAUTION

Covers should be removed from cable and REMOTE CONTROL UNIT just before they are connected to avoid contamination.

(1) Remove cover (14) from LH REMOTE CONTROL outlet (15) and remove cover (5) from other end of cable connector (11).

(2) Refer to Para 2-31b Steps (2) through (4) to prepare REMOTE CONTROL UNIT for operation.

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).

d. Rotate and Telescope Boom.

WARNING

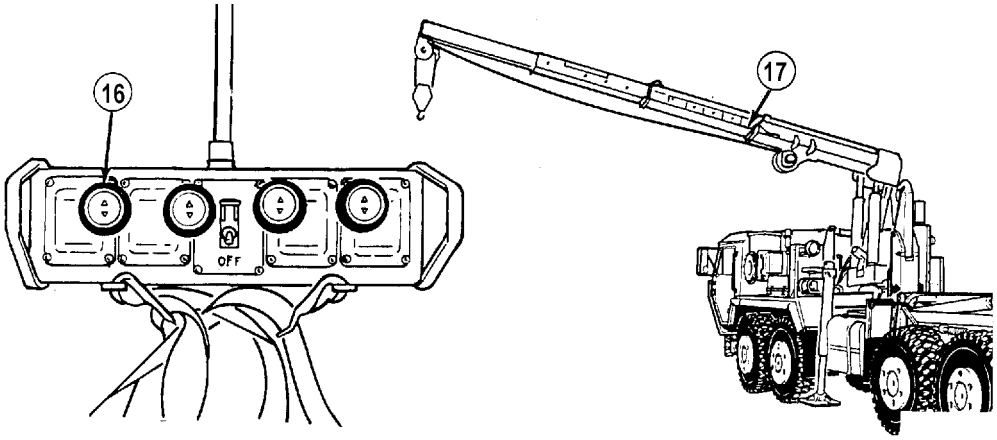
- Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death.
- Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.
- Operator must keep control of load at all times. If necessary, attach cargo tiedowns to load for use as a control tether. Load moving out of control could cause serious injury or death.
- Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.

CAUTION

Boom must be above truck hook arm, flatrack and truck load for clearance. Hitting obstacles with boom may cause damage to boom or truck.

NOTE

Operate control levers with light, even pressure. Moving lever slightly will cause slow movement of crane. Moving lever to full travel will cause faster movement of crane.



(1) Move the SWING control lever (16) to CCW position to move boom (17) counterclockwise.

(2) Move the SWING control lever (16) to CW position to move boom (17) clockwise.

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).

WARNING

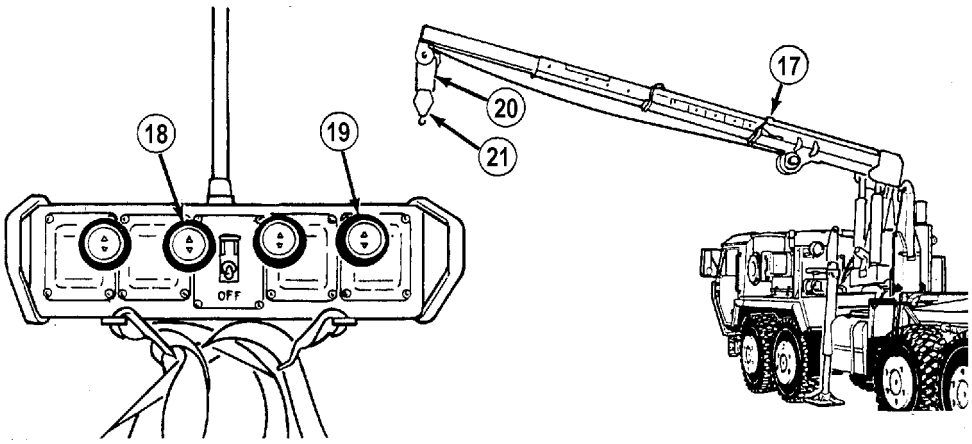
When operating two control levers at the same time, if one function is held wide open and "dead-headed" (i.e., cylinder is fully extended) and another function is operated, the second function can operate at a greater than normal speed, which could cause loss of control and serious injury or death to personnel.

CAUTION

Keep hook block at least 2 ft. (0.61 m) from end of boom. If hook block hits end of boom it may damage cable or hook block and crane will lose control functions. Lower hook block and wait six seconds for power to return. Check crane for damage.

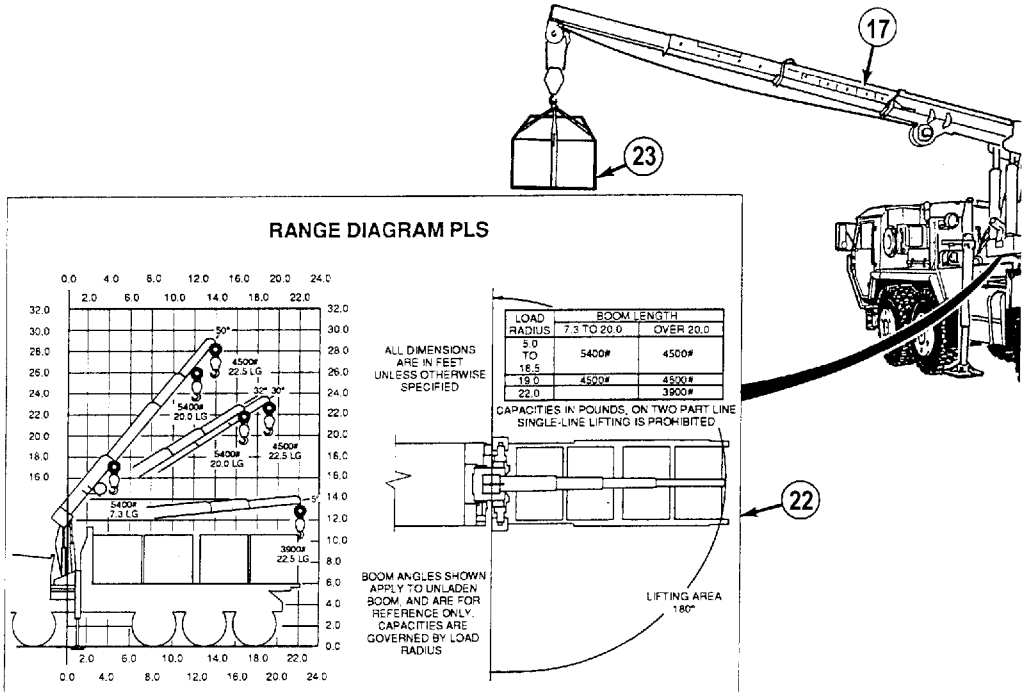
NOTE

- When crane is overloaded, the overload shutdown system will automatically shut off power to Telescope Boom Out, Boom Up, Boom Down and Hoist Up functions.
- TELESCOPE and HOIST control levers should be operated at same time.
- Crane movement from one lever may be slower than other when operating two levers together.



(3) Move TELESCOPE control lever (18) to OUT position to extend boom (17) while moving HOIST control lever (19) to DOWN position to pay out cable (20). This prevents hook block (21) from contacting boom nose.

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).



CAUTION

- Do not attempt to lift more than maximum load rating as shown on RANGE DIAGRAM. Exceeding load ratings could cause damage to equipment.
- Operator must keep control of load at all times. If necessary, attach cargo tie down straps to load for use as a control tether. Load moving out of control could cause serious injury or death.

NOTE

Refer to the RANGE DIAGRAM data plate above RH Crane Control Panel or rear of left front fender.

(4) Move boom (17) to correct radius as shown on data plate (22) before connecting to load (23).

e. Raise and Lower Load.

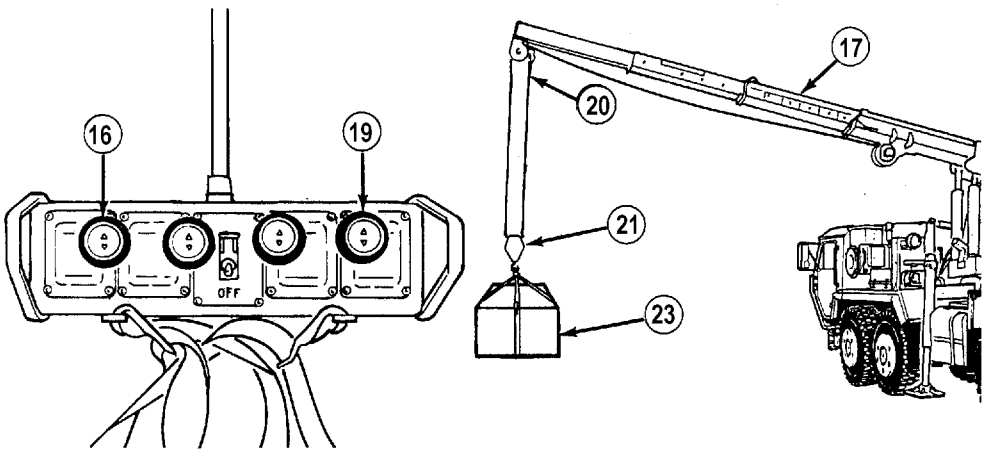
WARNING

- Load hook must not extend beyond attaching point of load. When lifting load, boom will deflect slightly and load radius will increase depending on length of boom and weight of load. Boom deflection may cause load to swing out and cause injury or death to personnel and/or damage to equipment.
- Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operator crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.
- Operator should use REMOTE CONTROL UNIT if the load will pass overhead. Load could fall, causing serious injury or death.

CAUTION

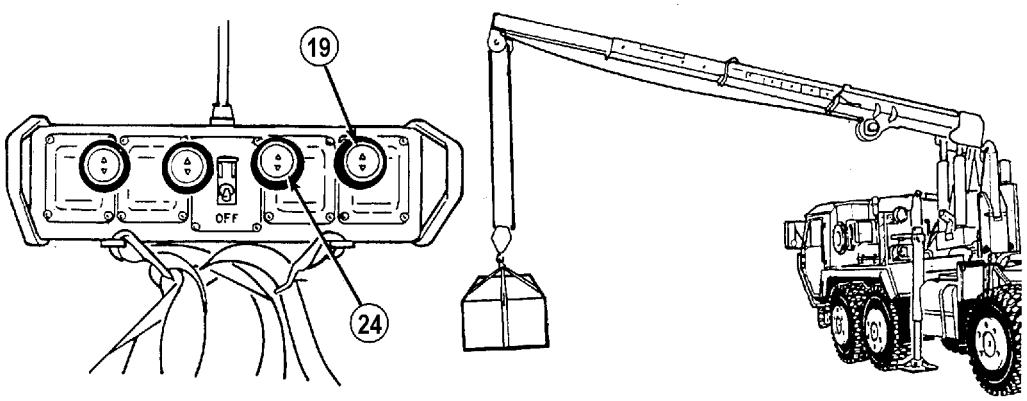
- Do not let cable become slack. Cable may get tangled on drum and damage cable.
- Do not drag load sideways on ground. Dragging load could cause damage to crane.

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).



(1) Operate the SWING control lever (16) and center end of boom (17) directly over load (23).

(2) Operate the HOIST control lever (19) to raise or lower cable (20) and connect hook (21) to load (23).



WARNING

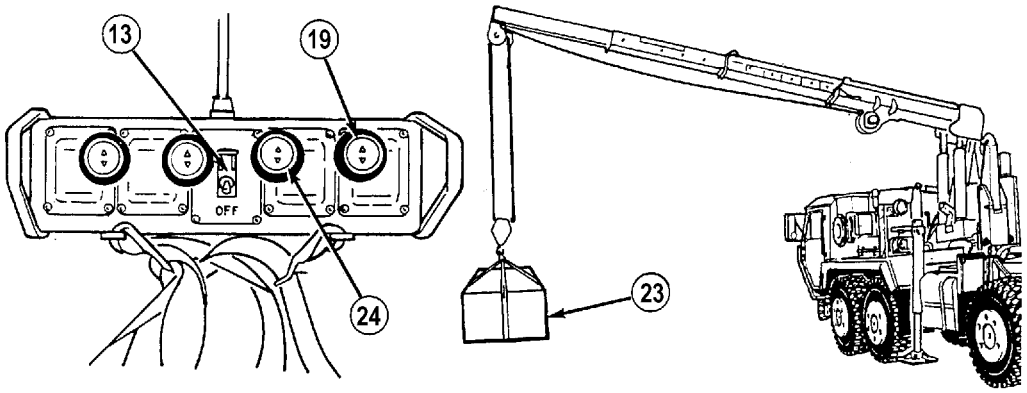
Ensure there are at least two wraps of cable on hoist drum at all times. Serious injury or death could result if cable comes off hoist drum while lifting load.

CAUTION

- Do not jerk HOIST control lever or load will bounce, causing possible damage to crane or load, and causing overload shutdown to operate.
- Do not attempt to lift more than maximum load rating as shown on RANGE DIAGRAM. Exceeding load ratings could cause damage to equipment.

(3) Move the HOIST control lever (19) to UP position to lift load. Move BOOM control lever (24) to UP position to raise load higher and bring load closer to crane.

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).



(4) Move the HOIST control lever (19) to DOWN position to lower the load. Move BOOM control lever (24) to DOWN position to lower load further and move load away from crane as necessary.

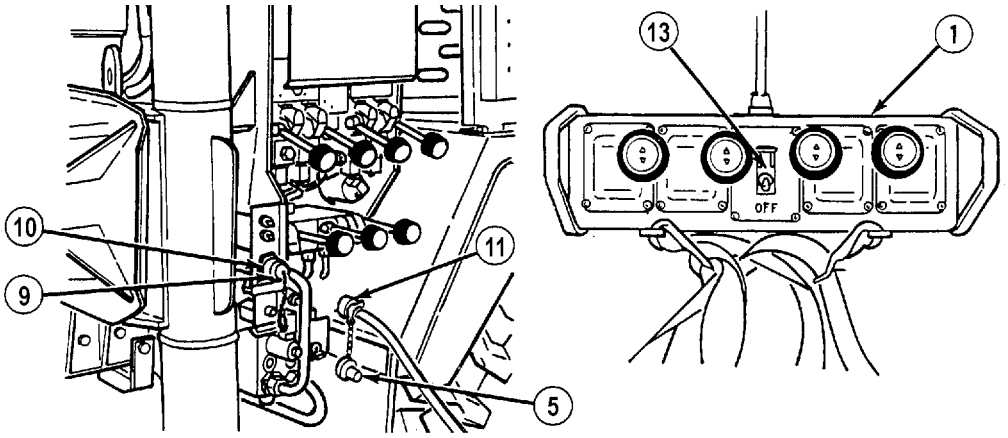
(5) Lower load (23) until properly positioned.

WARNING

Shut off and remove REMOTE CONTROL UNIT from around neck and shoulders prior to climbing on truck, flatrack or load or serious injury or death to personnel may result.

(6) Turn REMOTE CONTROL EMERGENCY STOP ON/OFF power switch (13) to OFF and disconnect load (23).

f. Disconnect Remote Control From RH Outlet.

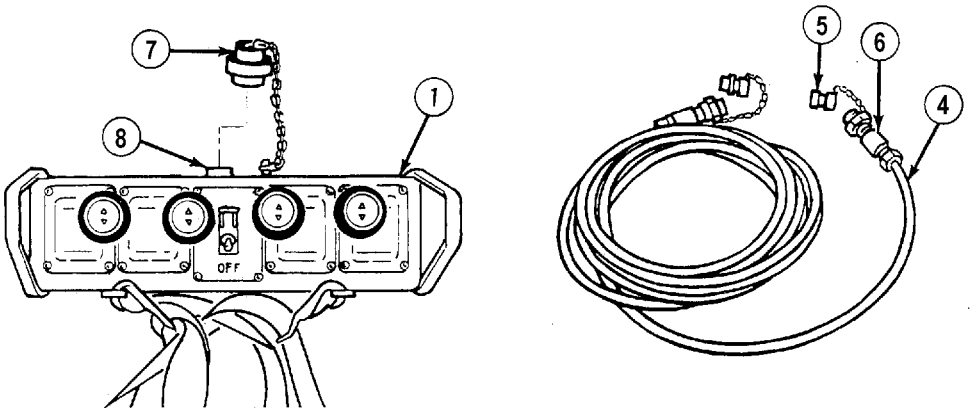


(1) Put the REMOTE CONTROL EMERGENCY STOP ON/OFF power switch (13) on REMOTE CONTROL UNIT (1) in OFF position.

(2) Disconnect cover (9) from cover (5).

(3) Disconnect the cable connector (11) from RH REMOTE CONTROL CONNECTOR outlet (10) and install cover (9) on outlet. Install cover (5) on cable connector (11).

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).



(4) Disconnect cover (7) from cover (5).

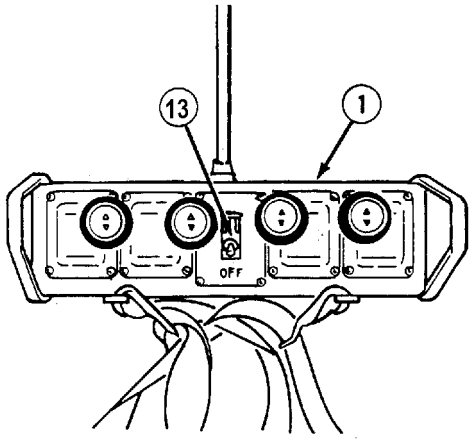
(5) Disconnect the cable connector (6) from REMOTE CONTROL UNIT receptacle (8) and install cover (7) on receptacle.

(6) Replace covers (5) on cable connector (6).

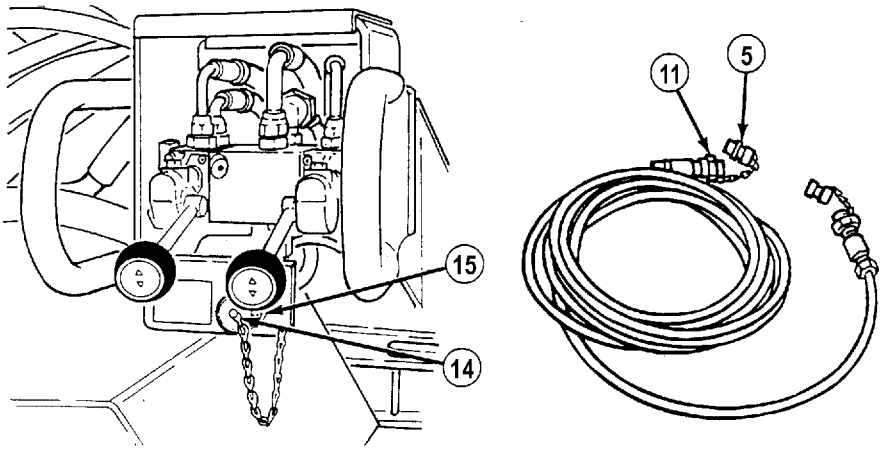
(7) Place REMOTE CONTROL UNIT (1) and coiled cable (4) in stowage box.

(8) Shut down the crane, (Para 2-30).

g. Disconnect Remote Control Unit From LH Outlet.



(1) Set REMOTE CONTROL EMERGENCY STOP ON/OFF power switch (13) on REMOTE CONTROL UNIT (1) to OFF position.

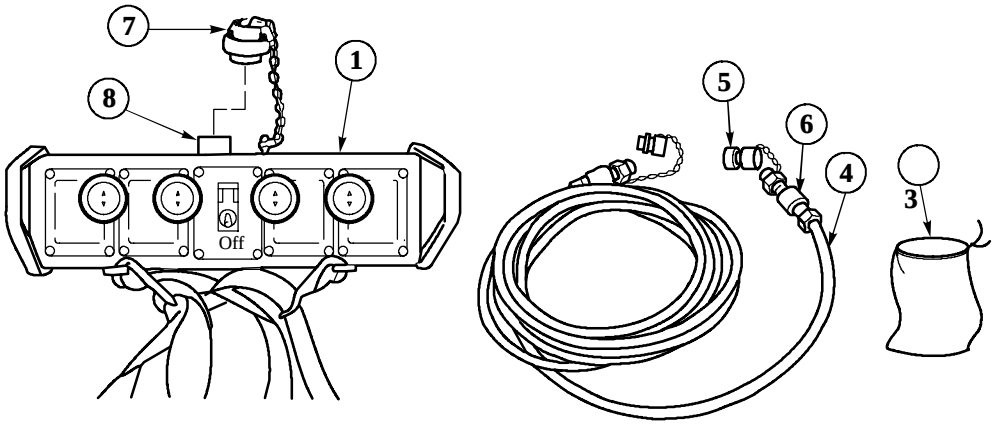


(2) Disconnect cover (14) from cover (5).

(3) Disconnect the cable connector plug (11) from LH REMOTE CONTROL CONNECTOR outlet (15) and install cover (14) on outlet.

(4) Install cover (5) on cable connector plug (11).

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).



(5) Disconnect cover (7) from cover (5).

(6) Disconnect the cable connector (6) from REMOTE CONTROL UNIT receptacle (8) and install cover (7) on receptacle.

(7) Install cover (5) on cable connector (6).

(8) Place the REMOTE CONTROL UNIT (1) in stowage box.

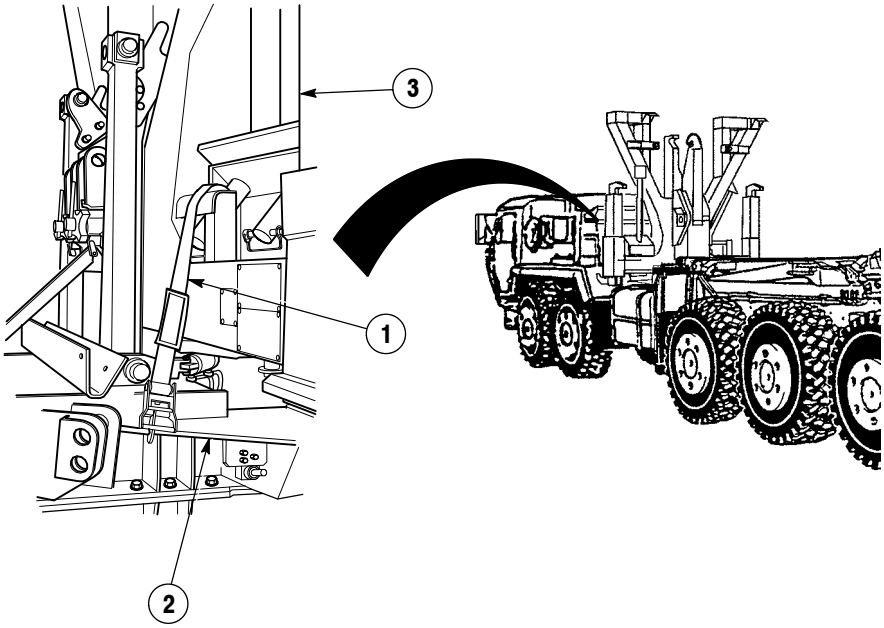
(9) Place remote control cable (4) in bag (3).

(10) Place remote control cable bag (3) behind passenger seat.

(11) Shut down the crane (Para 2-30).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE.

a. Preparation for Container Mode.



WARNING

- Check for overhead power lines or other obstructions before attempting CHU operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Ensure engine is OFF and truck parking brake is ON before preparing PLS truck for container mode. Failure to comply may result in injury or death to personnel.

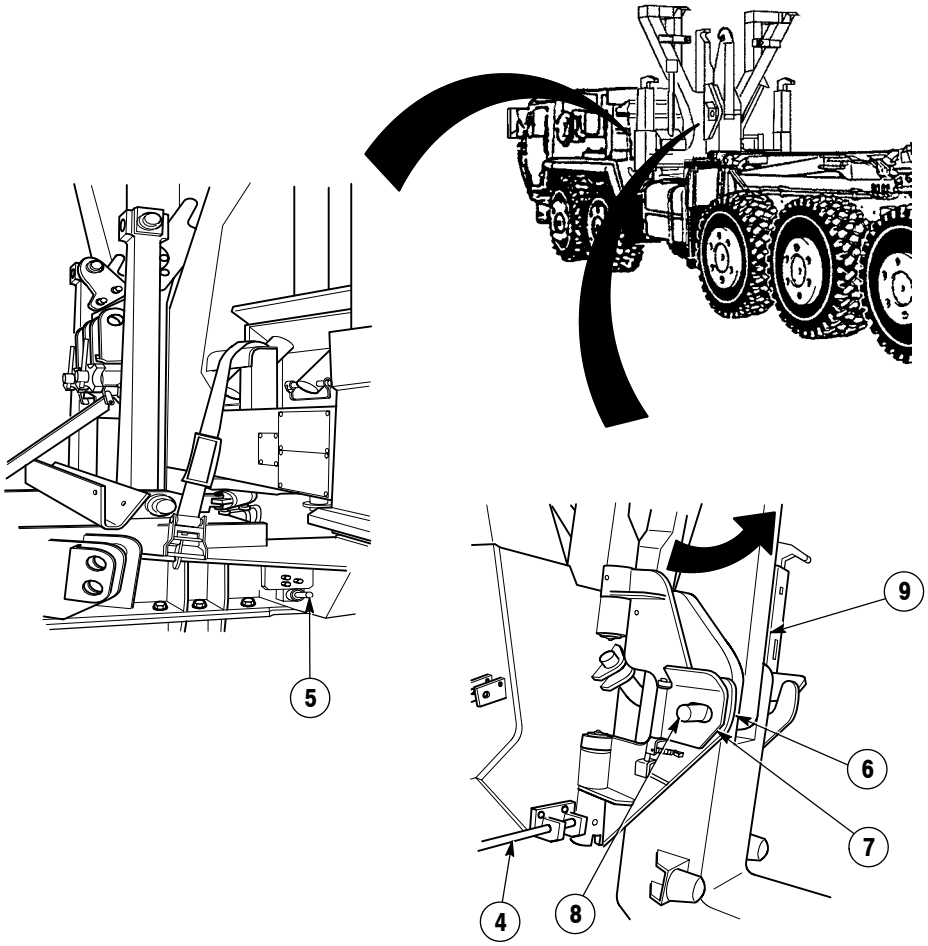
NOTE

There are two straps and flipper lock assemblies on lifting frame. Left side is shown.

(1) Remove strap (1) from rod on front support assembly (2).

(2) Stow strap (1) on lifting frame (3) stowbar.

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).

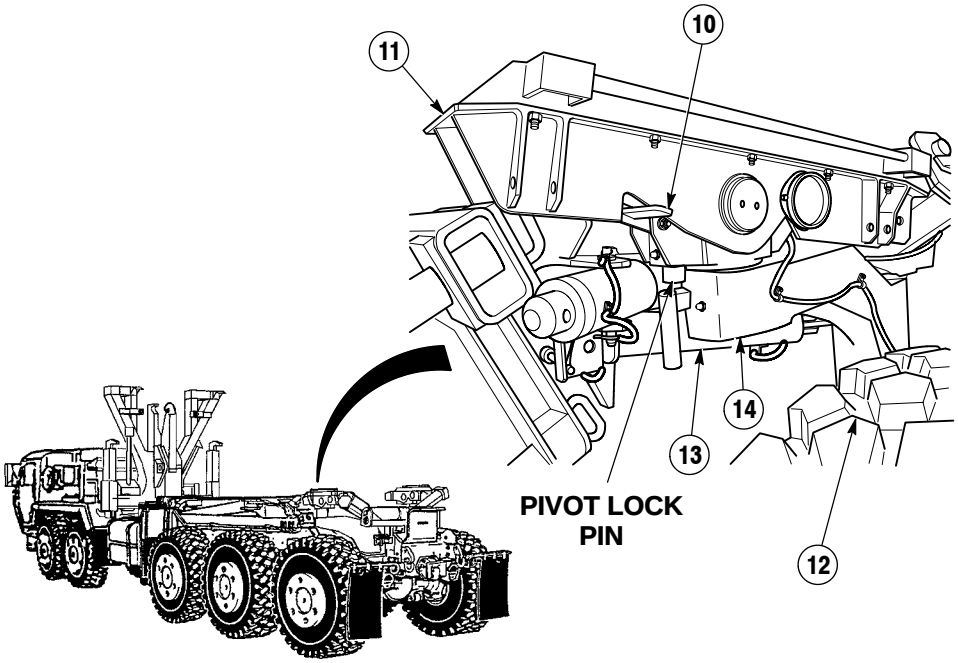


(3) Pull flipper lock pin handle (4) out and lift air valve lever (5) up to rotate flipper bracket (6) and flipper bracket lock plate (7) on pivot pin (8).

(4) Release flipper lock pin handle (4).

(5) Ensure flipper bracket (6) is positioned over pivot pin (8) on hook arm (9).

(6) Ensure flipper lock pin handle (4) is engaged in flipper bracket (6).



(7) Repeat Steps (3) through (6) if flipper bracket and flipper bracket lock plate are not completely engaged over pivot pin.

(8) Repeat Steps (1) through (7) for right side flipper lock.

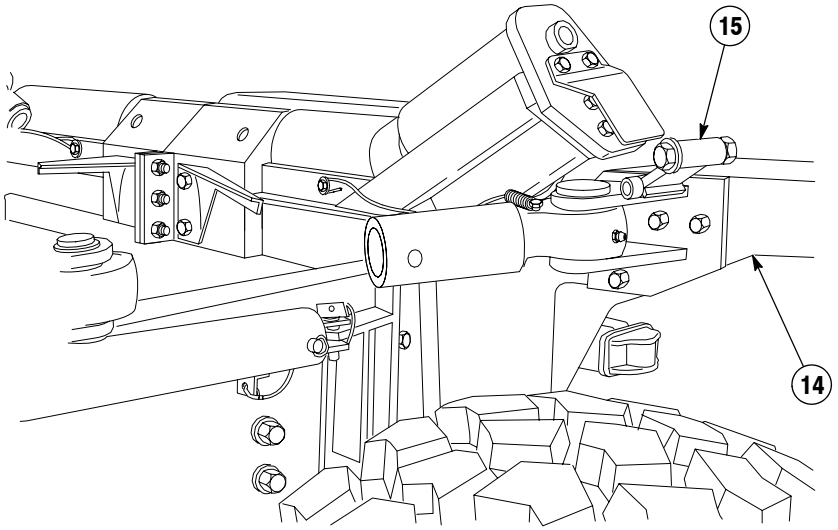
NOTE

There are two strut and slider assemblies. Left side is shown.

(9) Pull down pivot lock pin handle (10) and rotate rear slider (11) over tire (12) until pivot lock pin locks.

(10) Lift rear of slider (11) and using handle (13) rotate slider arm (14) outward.

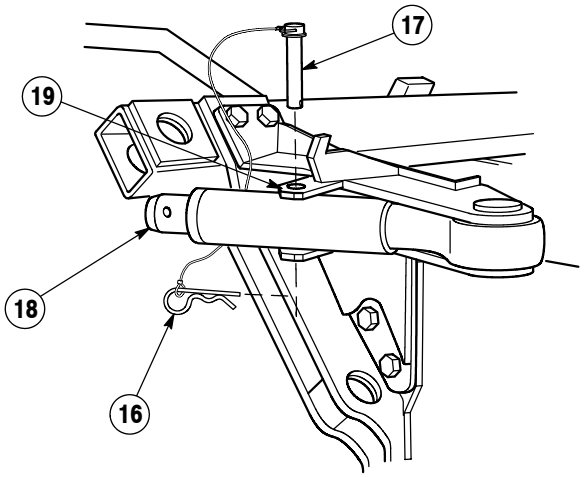
2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



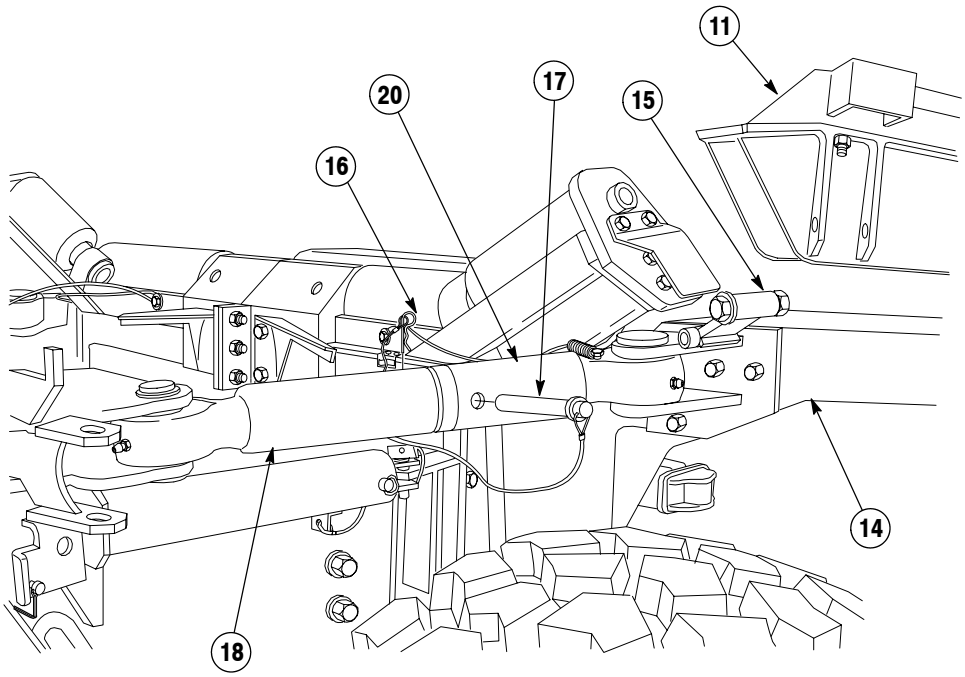
WARNING

Ensure fingers and hands are not between strut front and rear halves. Fingers and hands could become pinched during assembly causing injury to personnel.

(11) Rotate flip lock (15) up to hold slider arm (14). Release slider arm.



(12) Remove lock pin (16) and pin (17) from long strut (18) and strut bracket (19).



(13) Align long strut (18) with short strut (20).

(14) Rotate slider arm (14) out with handle and disengage flip lock (15) by rotating it down.

(15) Position long strut (18) into short strut (20) and install pin (17) and lock pin (16). Ensure slider (11) is in straight ahead position.

(16) Repeat Steps (9) through (15) for right side.

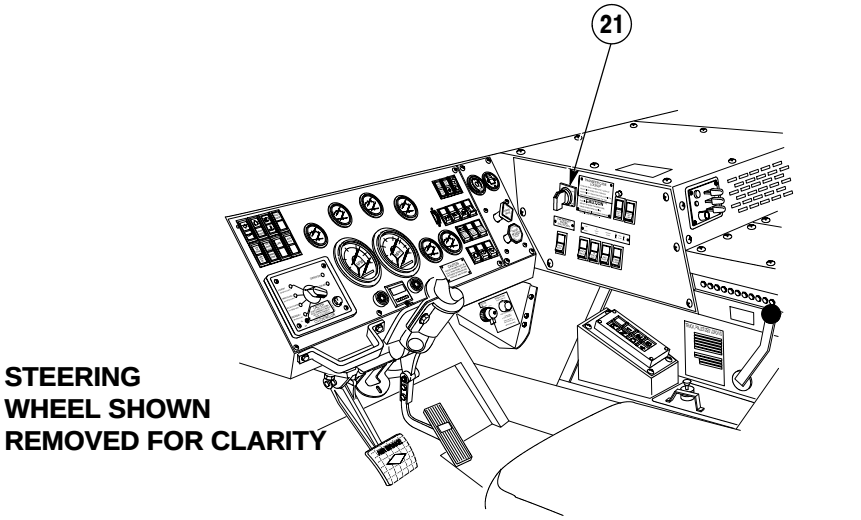
2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).

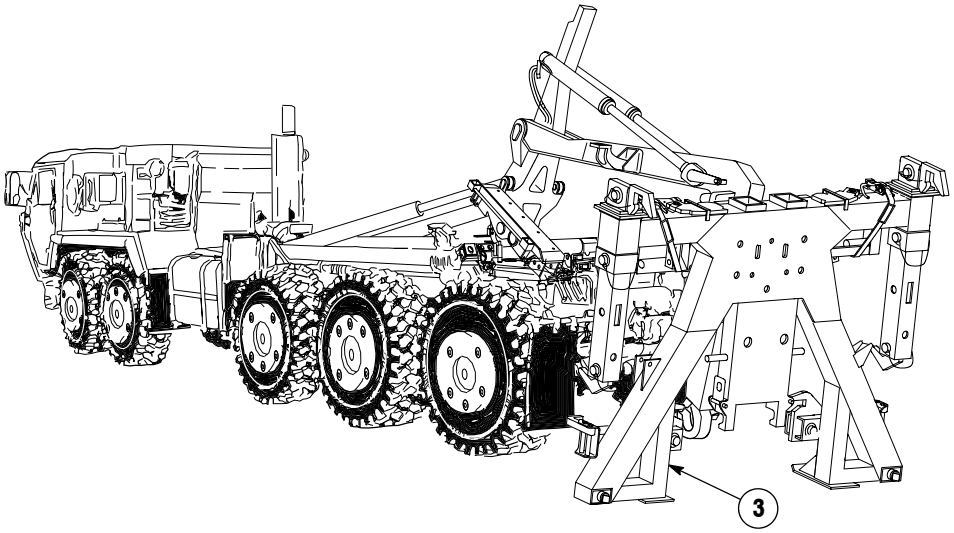
WARNING

- Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.
- Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.
- Lifting frame must be unloaded on a flat level surface. Failure to comply may result in lifting frame tipping over unexpectedly causing injury or death to personnel.
- Both right and left side flipper brackets and flipper bracket lockplates must engage pivot pin on hook arm. Failure to comply will result in lifting frame falling off of hook arm and could cause injury or death to personnel.

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.



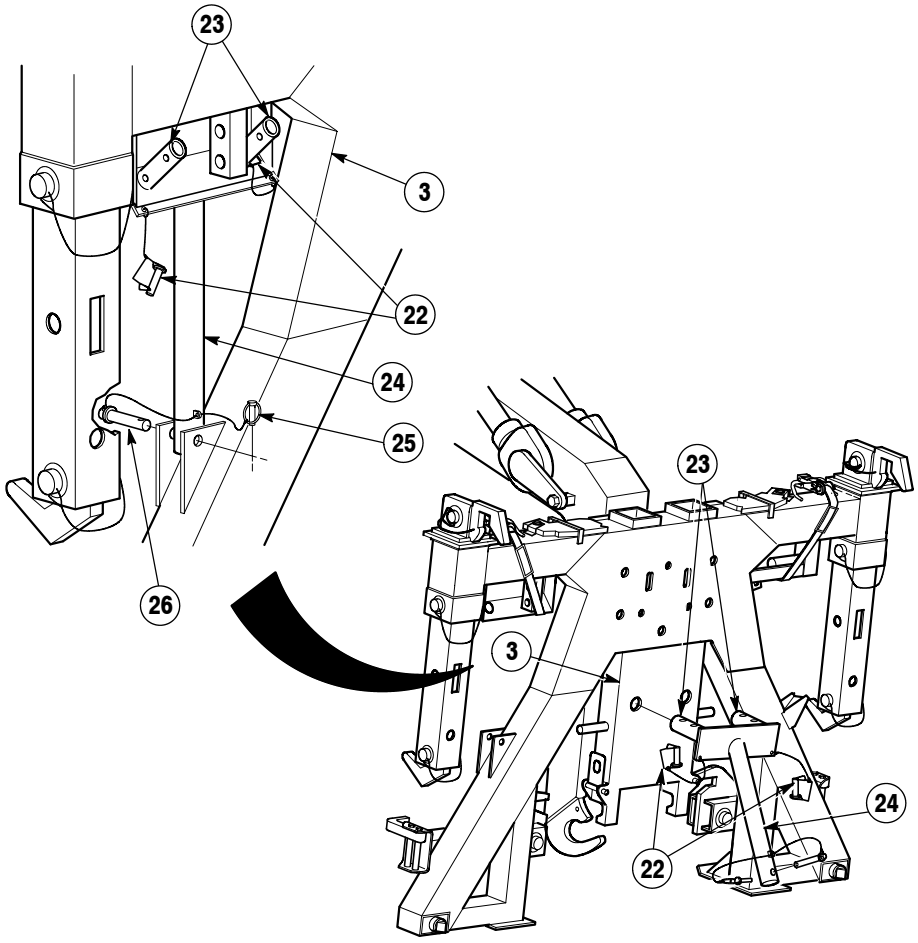


(17) Turn hydraulic selector switch (21) to auto.

(18) Operate LHS in AUTO mode until lifting frame (3) stops.

(19) Turn hydraulic selector switch (21) to MAN H.A. mode and lower until lifting frame is approximately 12 in. (30 cm) from the ground.

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).

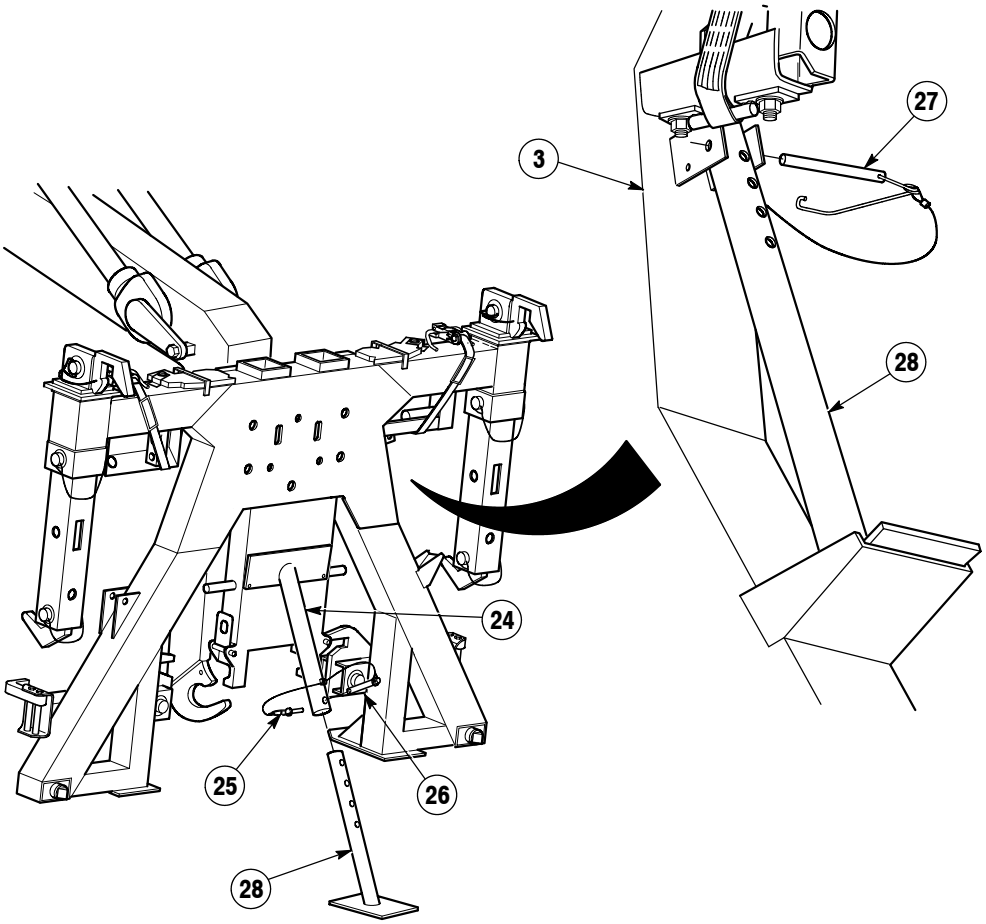


(20) Remove two lock pins (22), pins (23) from upper support leg (24).

(21) Remove lock pin (25), pin (26) and upper support leg (24) from stowage bracket on lifting frame (3).

(22) Position two pins (23) on upper support leg (24) through two lower holes on lifting frame (3).

(23) Install two lock pins (22) in pins (23) on upper support leg (24) and front side of lifting frame (3).



(24) Remove lock pin (27) and lower support leg (28) from stowage bracket on lifting frame (3).

(25) Position lower support leg (28) in upper support leg (24).

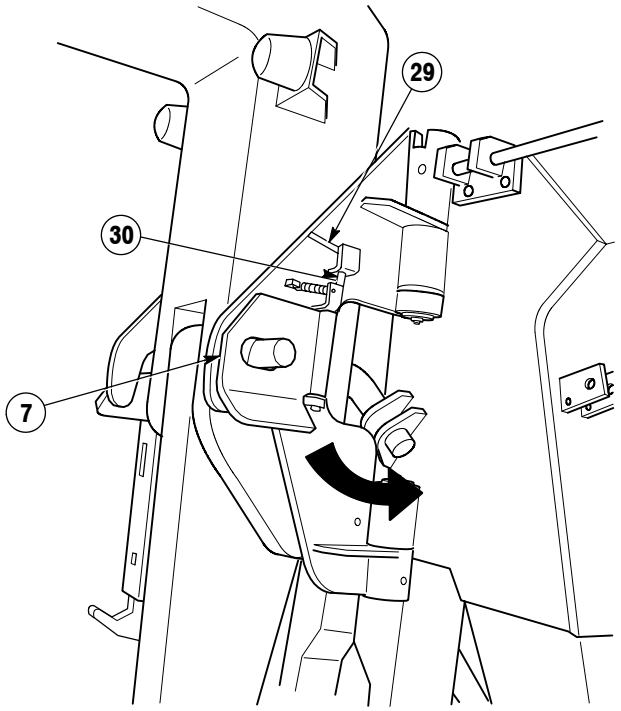
NOTE

Other support leg pin hole positions may be used if ground is uneven.

(26) Align hole in upper support leg (24) with second hole from bottom on lower support leg (28) and install pin (26) and lock pin (25).

(27) Install lock pin (27) in stowage bracket on lifting frame (3).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



NOTE

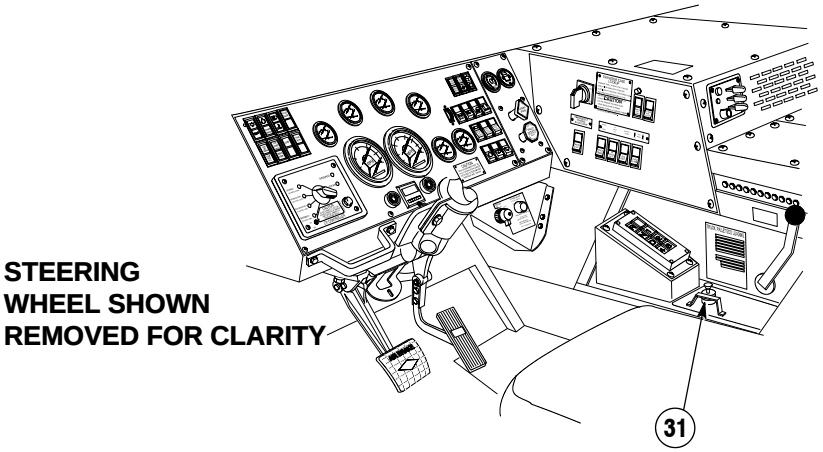
- If ground is soft, jacking plate from truck BII or similar item may be positioned under support leg pad to prevent lifting frame from sinking in ground.
- There are two flipper bracket lock plates on lifting frame. Left side is shown.

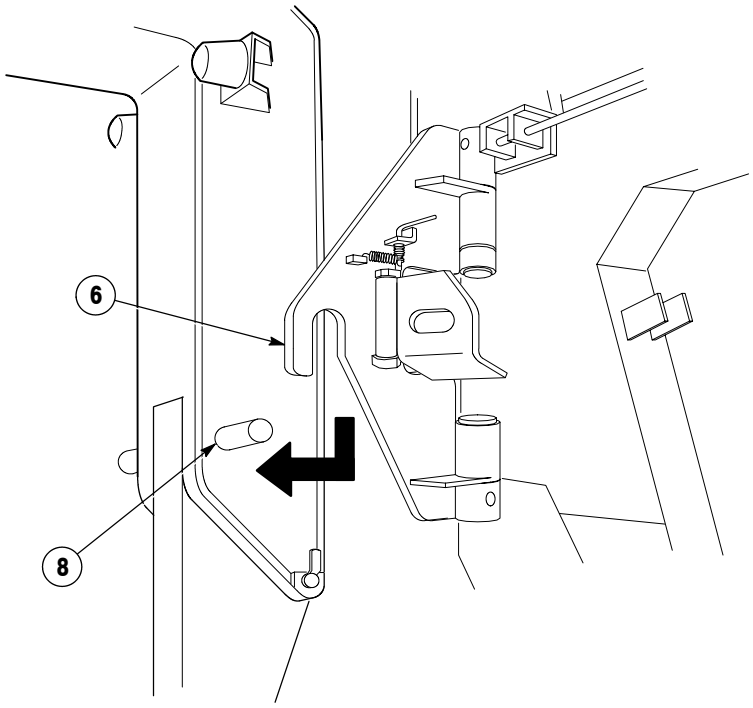
(28) Lift pin handle (29) and release pin (30).

(29) Rotate flipper bracket lock plate (7) out to unlocked position and release pin handle (29).

(30) Ensure pin (30) is locked in flipper bracket lock plate (7).

(31) Repeat Steps (28) through (30) for right side.

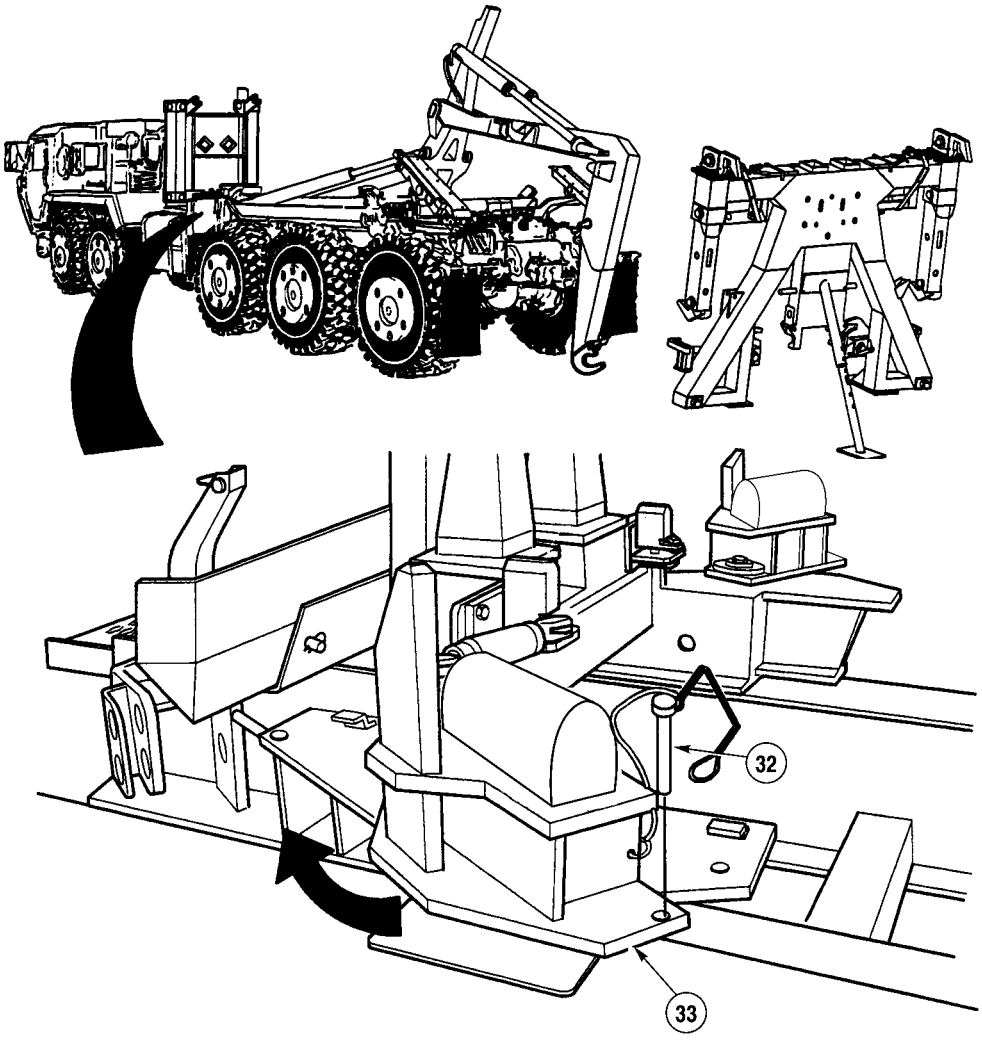




(32) With hydraulic selector switch still in MAN H.A. mode, move joystick (31) to UNLOAD until LHS stops and pivot pin (8) is below flipper bracket (6).

(33) Drive truck ahead approximately 12 in. (30 cm).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



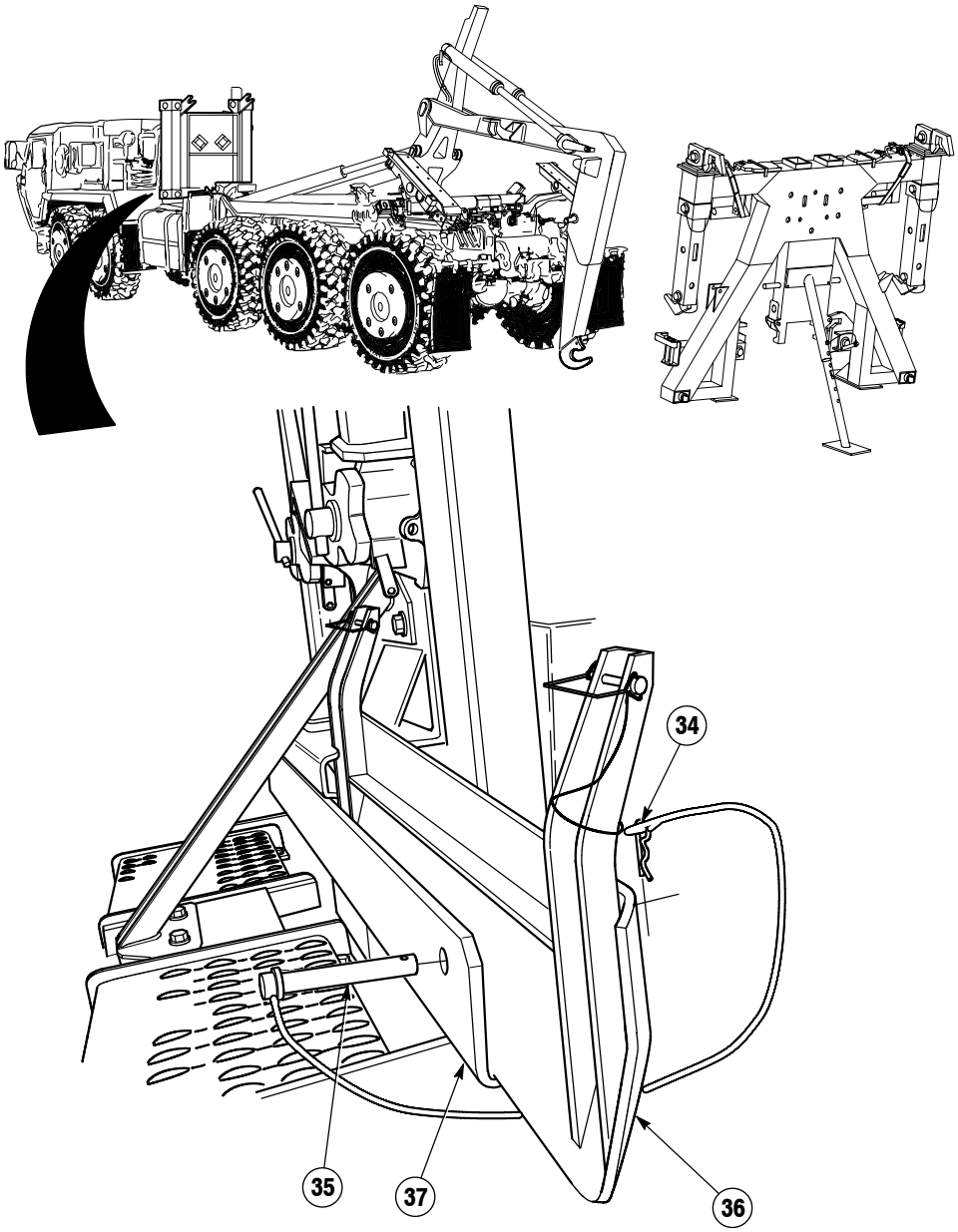
NOTE

- There are two bumper supports and container guides. Left side is shown.
- Bumper support is in container mode when bumper support is positioned completely over bracket, toward rear of truck.

(34) Remove lock pin (32) from bumper support (33).

(35) Rotate bumper support (33) approximately 180 degrees toward rear of truck.

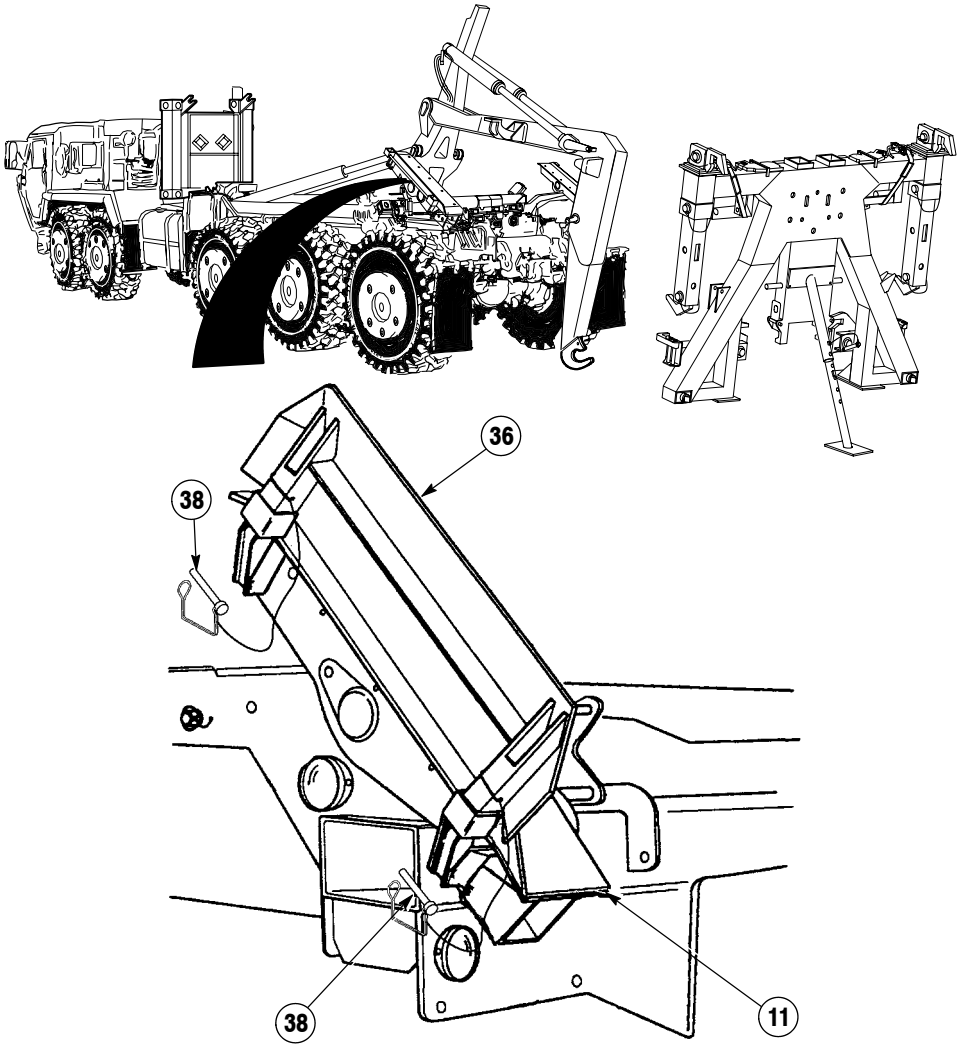
(36) Install lock pin (32) in bumper support (33).



(37) Remove lock pin (34), pin (35) and container guide (36) from stowage bracket (37).

(38) Install pin (35) and lock pin (34) in stowage bracket (37).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).

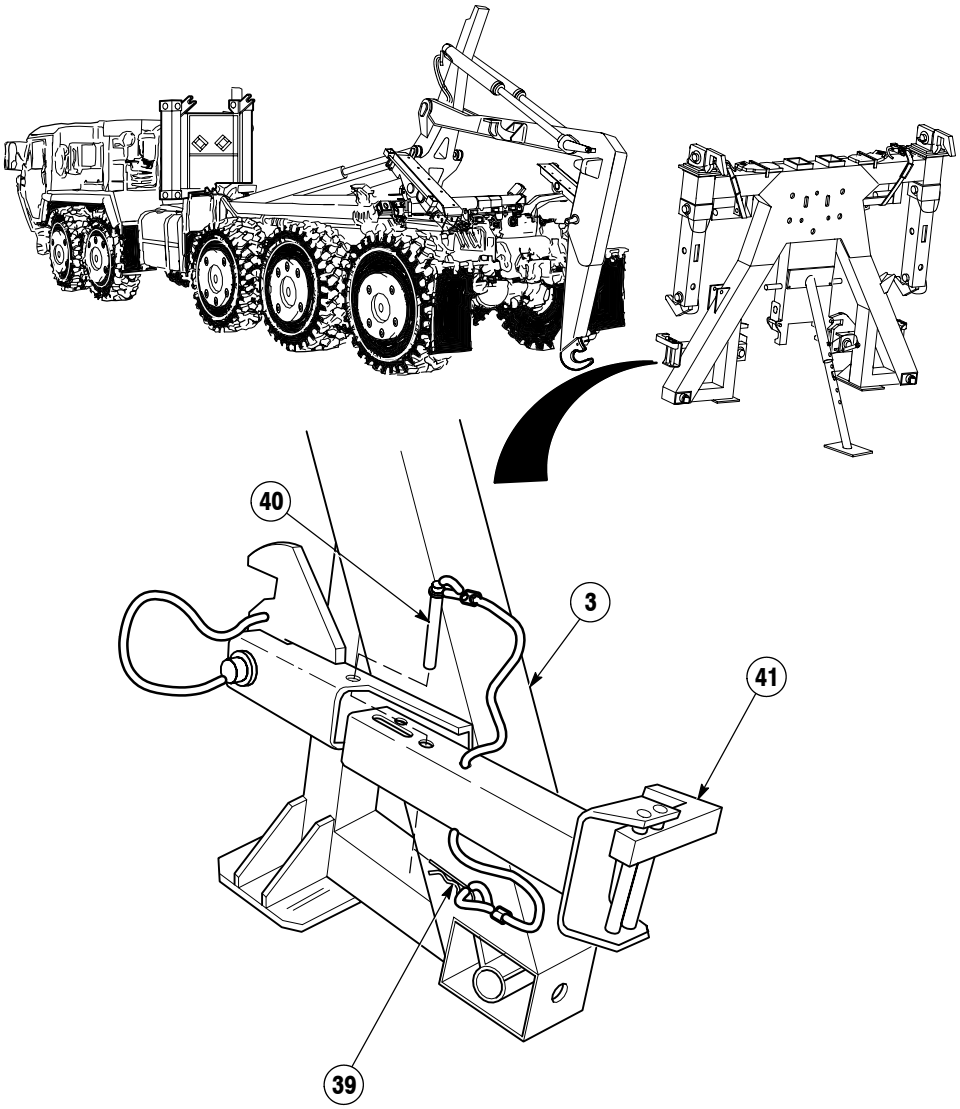


WARNING

Hands may get pinched when installing container guide into slider. Hold container guides by outer edges of plate to avoid pinching between container guides and slider. Failure to comply may result in injury to personnel.

(39) Remove two lock pins (38) from container guide (36).

(40) Position container guide (36) in slider (11) and install two lock pins (38).



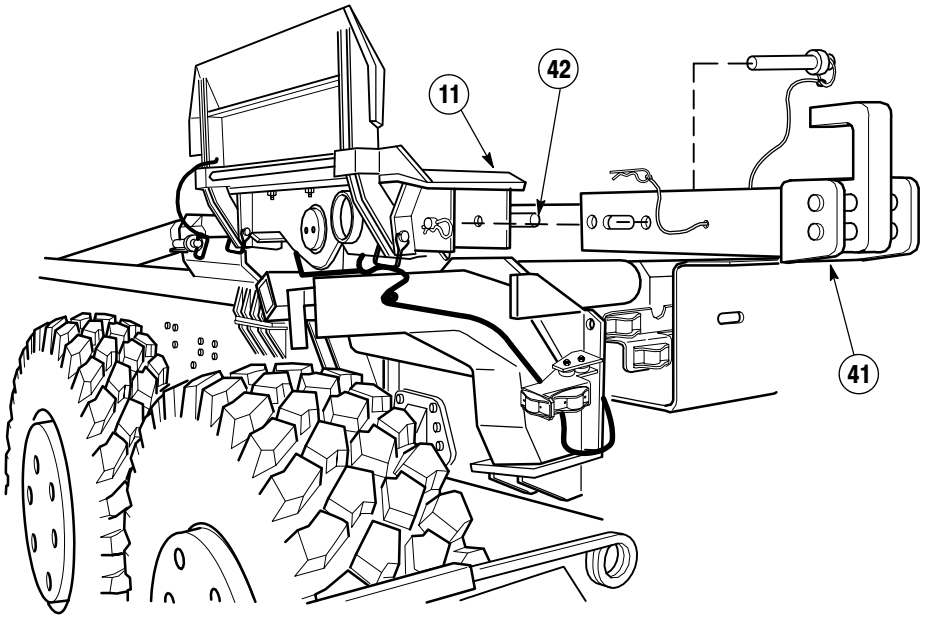
(41) Repeat Steps (34) through (40) for right side.

NOTE

There are two rear container locks on lifting frame. Left side is shown.

(42) Remove lock pin (39), pin (40) and rear container lock (41) from stowage bracket on lifting frame (3).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



(43) Turn lock handle (42) on slider (11) forward to unlock position.

NOTE

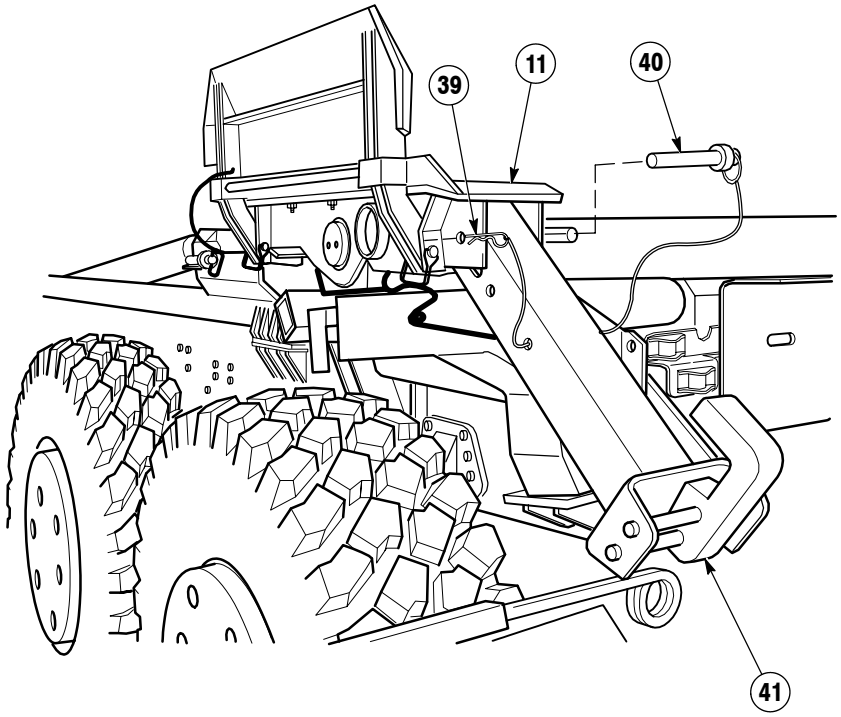
Hook in rear container lock faces up.

(44) Position rear container lock (41) in opening of slider (11).

NOTE

Ensure rear container lock pivot pin is in slot of rear container lock.

(45) Turn lock handle (42) on slider (11) back to locked position.



(46) Pull rear container lock (41) out to ready mode (down position).

NOTE

Pin is properly installed in hole farthest back on slider.

(47) Install pin (40) and lock pin (39) in slider (11) and rear container lock (41).

(48) Repeat Steps (42) through (47) for right side.

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).

WARNING

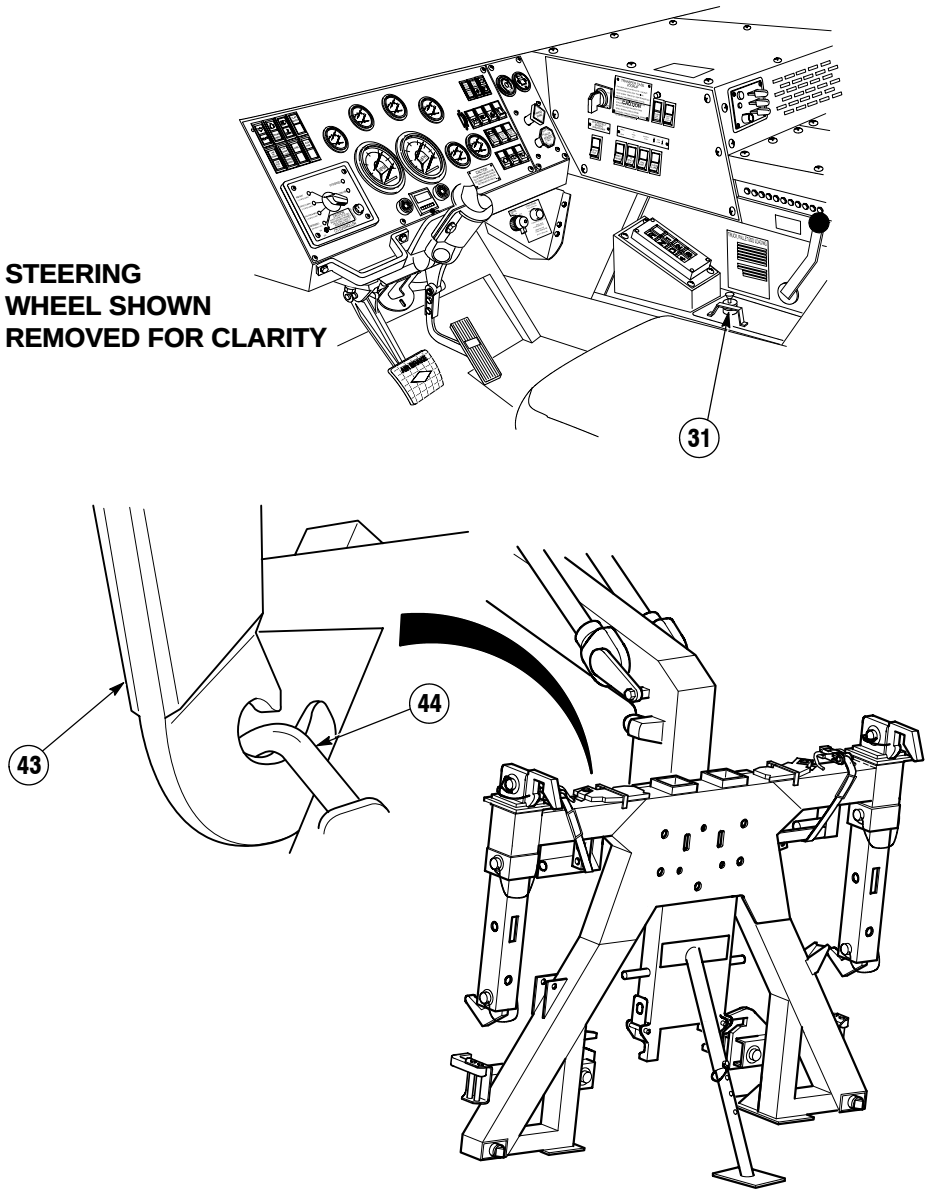
- Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.
- Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.
- Ensure lifting frame is free of snow, ice, and mud when installing on LHS. Lifting frame may be unbalanced and may cause injury or death to personnel.

CAUTION

Ensure hydraulic selector switch is in MAN H.A. when performing Step (49). Failure to comply may result in damage to equipment.

NOTE

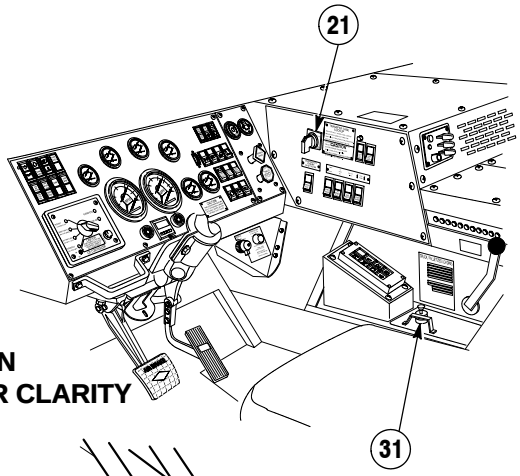
- For detailed instructions on how to operate the LHS on the PLS truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-Loading Flatrack in Auto Mode”.



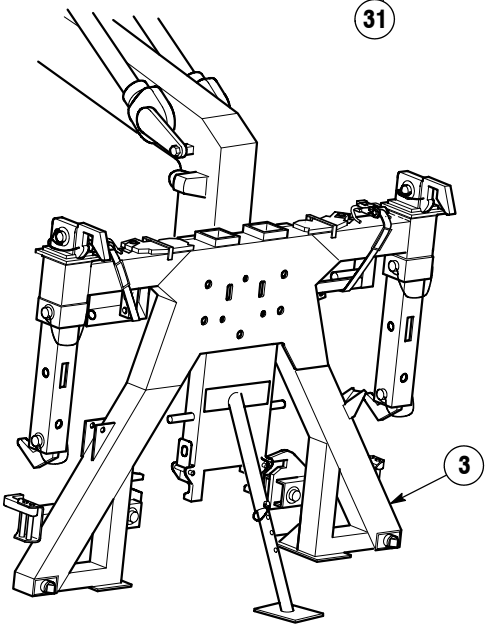
(49) With hydraulic selector switch still in MAN H.A. mode, move joystick (31) to LOAD until hook (43) is below hook bar (44). Release joystick.

(50) Back up truck and engage hook bar (44) with hook (43).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

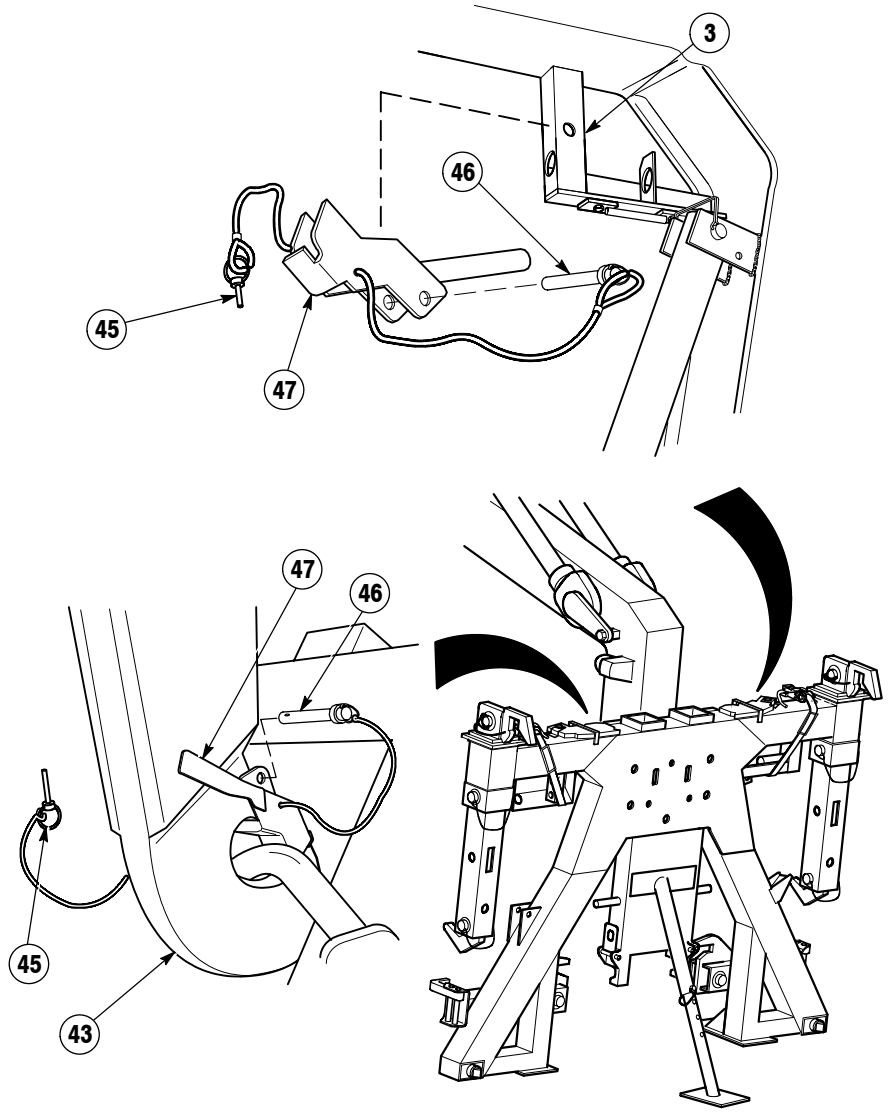


CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(51) Turn hydraulic selector switch (21) to AUTO mode.

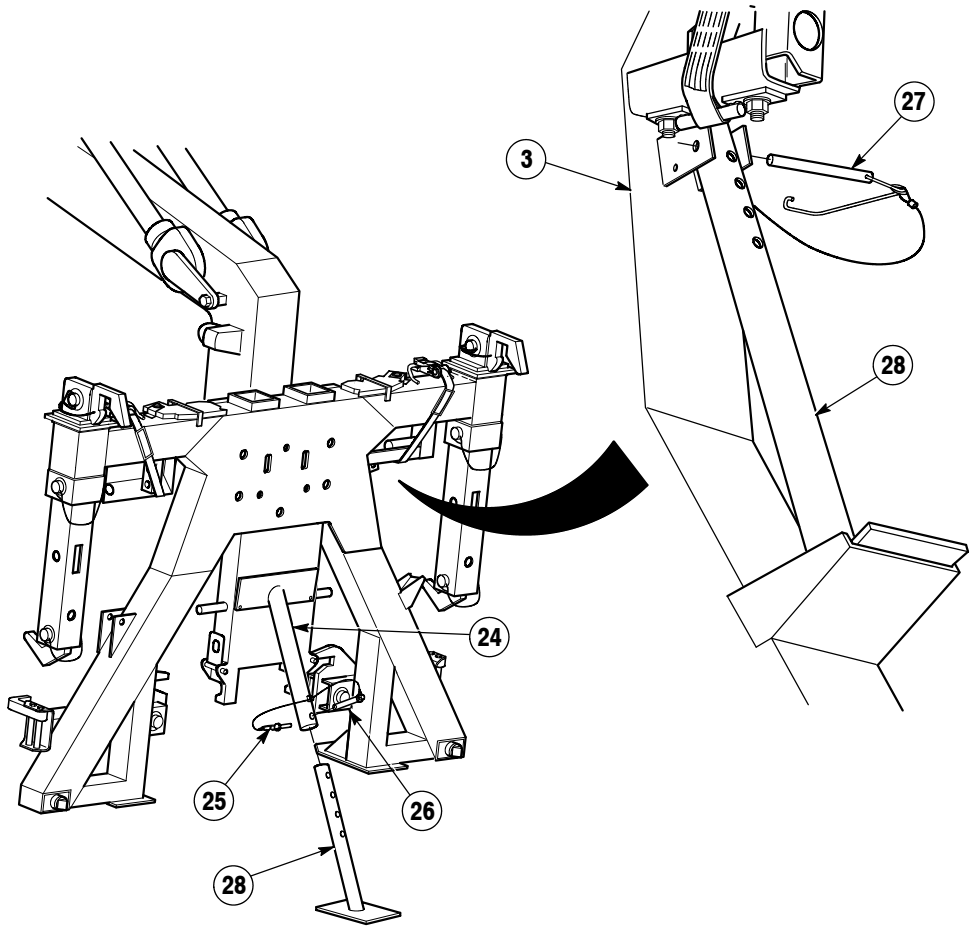
(52) Move joystick (31) to LOAD and raise lifting frame (3) approximately 12 in. (30 cm) off of ground. Release joystick.



(53) Remove lock pin (45), pin (46) and bail bar lock (47) from stowage bracket on lifting frame (3).

(54) Install bail bar lock (47) on hook (43) with pin (46) and lock pin (45).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).

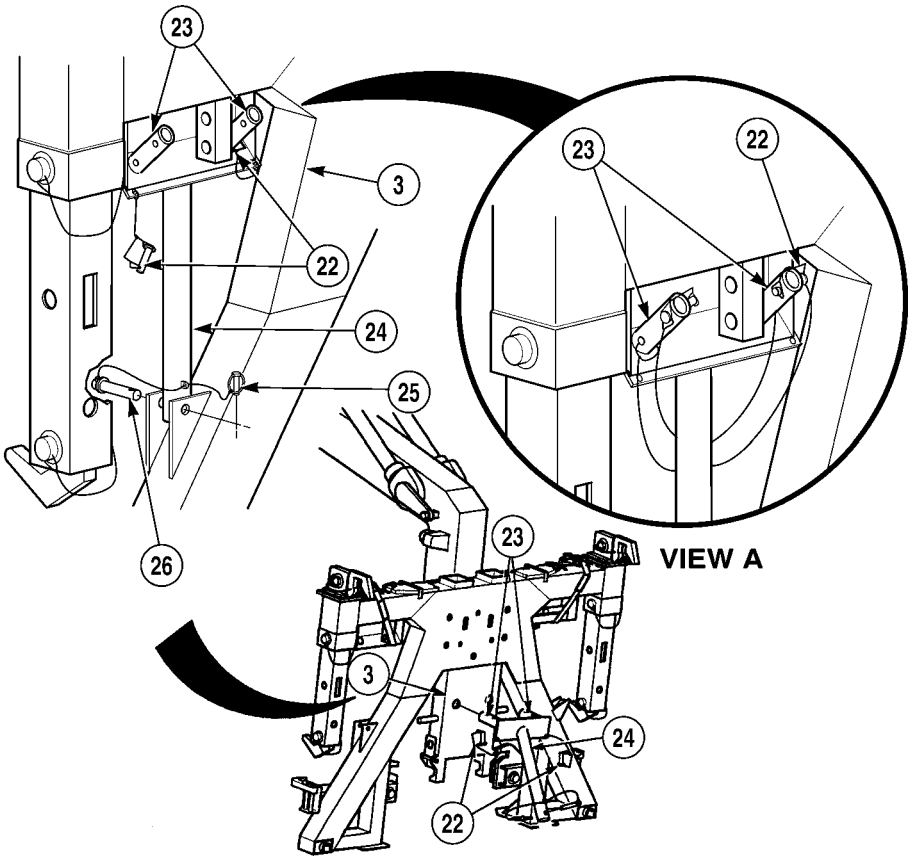


(55) Support lower support leg (28) and remove lock pin (25) and pin (26).

(56) Remove lower support leg (28) from upper support leg (24).

(57) Remove lock pin (27) from stowage bracket on lifting frame (3).

(58) Position lower support leg (28) in stowage bracket on lifting frame (3) and install lock pin (27).



(59) Support upper support leg (24) and remove two lock pins (22) from pins (23).

(60) Remove upper support leg (24) from lifting frame (3).

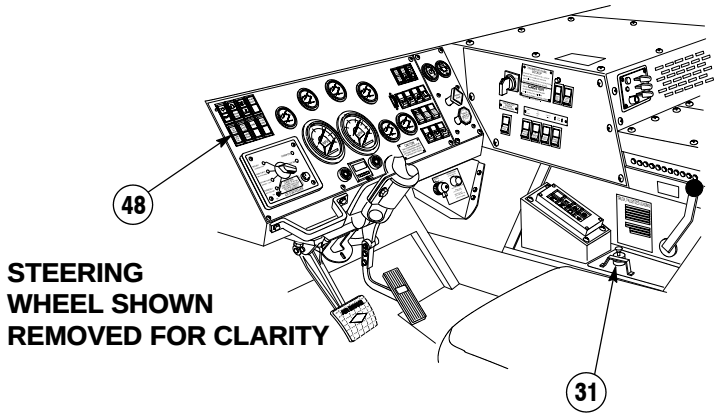
CAUTION

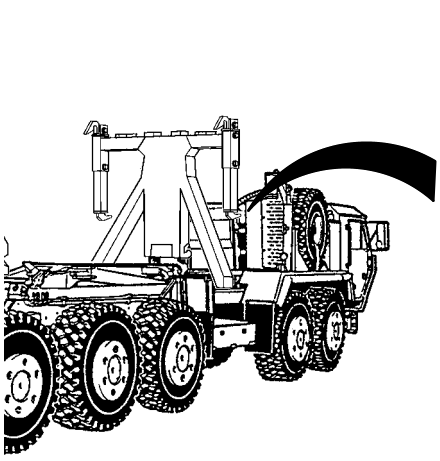
Ensure tethers of two lock pins installed in Step (61) route behind upper support leg and are installed on opposite pins. Failure to comply may allow tethers to catch on lift hook, causing damage to equipment.

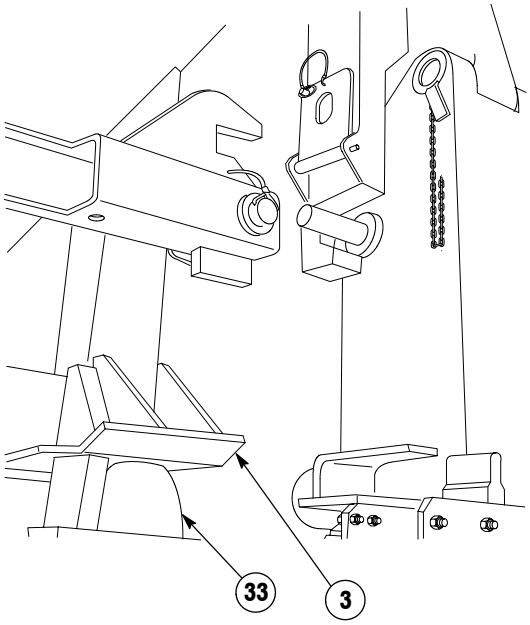
(61) Position upper support leg (24) in stowage bracket on lifting frame (3) and install two lock pins (22) on opposite pins (23). Criss-cross tethers by routing lower right lock pin to upper left hole in upper strut, and lower left lock pin to upper right hole in upper strut, as shown in View A.

(62) Install pin (26) and lock pin (25) and upper support leg (24) to stowage bracket on lifting frame (3).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).







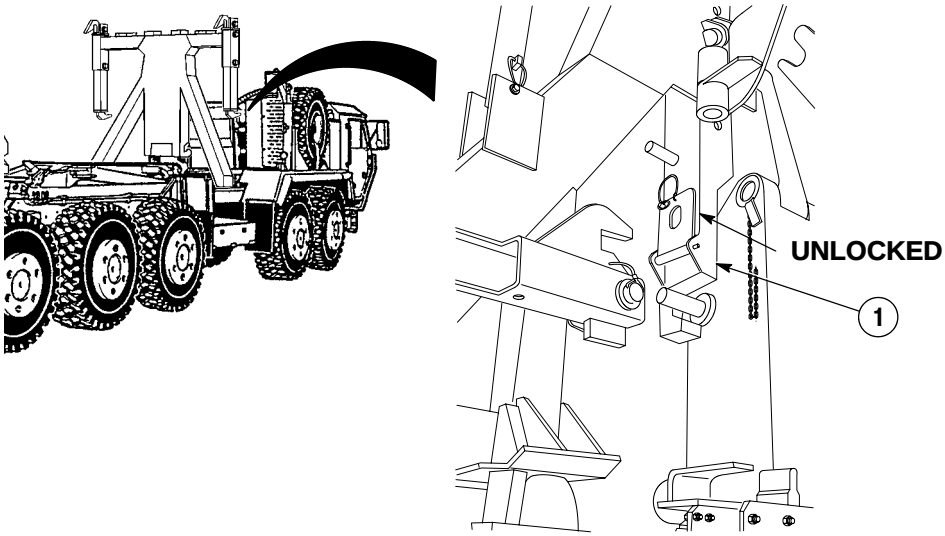
CAUTION

LHS must be completely stowed before attaching lifting frame to container. This resets LHS cycle for container mode. Failure to comply may result in damage to equipment.

(63) Move joystick (31) to LOAD until LHS NO TRANS light (48) goes out and lifting frame (3) is positioned on bumper supports (33).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF).

a. Loading



WARNING

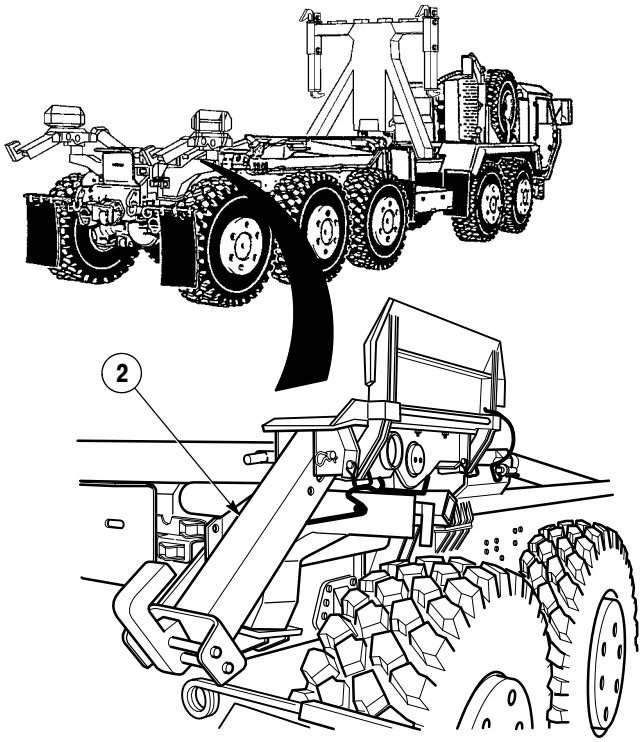
Lifting frame weighs 1600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

CAUTION

Ensure lifting frame is in the unlocked position before attempting to load a container to truck. Failure to comply will result in damage to equipment.

(1) Ensure lifting frame (1) is in container mode (Para 2-32) and unlocked (Para 2-37).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

Ensure truck is in container mode before attempting to load a container to truck. Failure to comply will result in damage to equipment.

(2) Ensure truck is in container mode, refer to (Para 2-32).

(3) Ensure rear container lock (2) is in ready mode, refer to (Para 2-32).

WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Maximum permissible gross container weight is 35,000 lbs. (15,890 kg).
- Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.
- Do not stand between lifting frame and container. Truck could roll, crushing personnel between them causing serious injury or death.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.

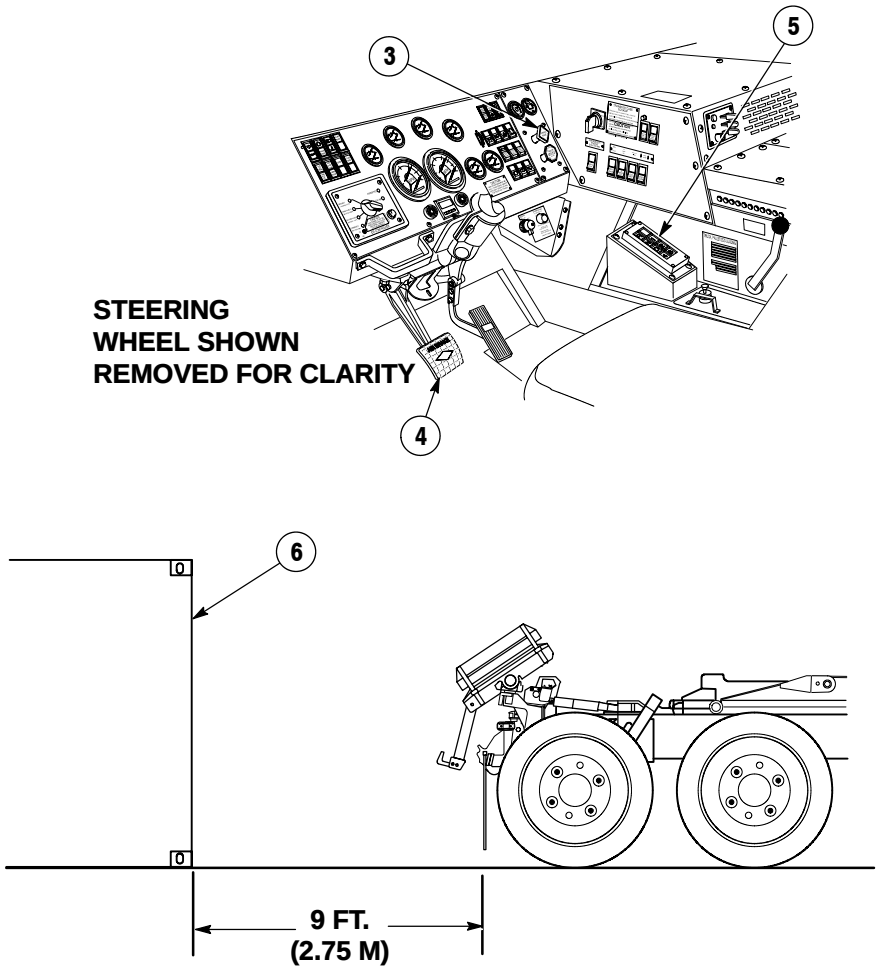
CAUTION

- Use extreme caution when loading/unloading container with side doors. Container must remain centered during loading/unloading or flanges on side may be damaged and/or door hinges may make hard contact with guides.
- When operating CHU with non-standard, end-opening, 20 ft. long shipping containers, operator needs to take extra care to ensure that sliders and guides contact container properly, container slides on sliders properly, and container loads centered on truck. Failure to comply can result in container getting hung up or making hard contact with sliders and guides, causing damage to CHU or container.

NOTE

- For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) **“**LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-loading a Flatrack in Auto Mode”.
- Rear mud flaps may be pinned up to provide better visibility of lifting frame lower container locks.
- Multiple connected containers can not be used with CHU. This includes Six CONS and Quad CONS.
- It is recommended that two personnel be used to ease operation (Driver and Spotter to position lifting frame).

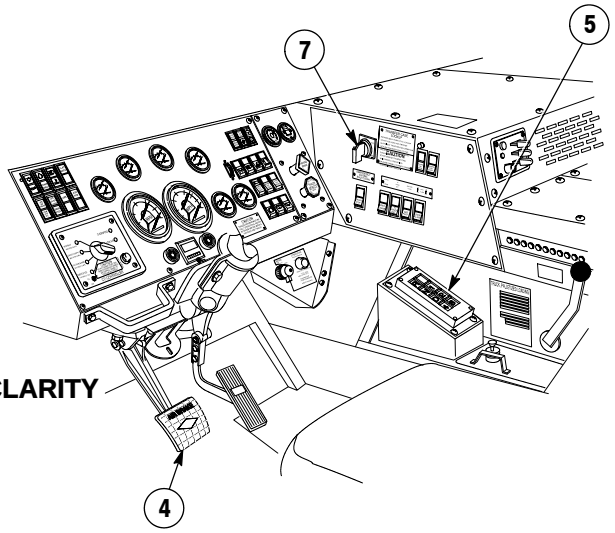
2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



(4) Start engine (Para 2-15).

(5) Push in parking brake knob (3), apply service brake pedal (4), and set transmission range selector (5) to Reverse (R).

(6) Release service brake pedal (4) and position rear of truck within 9 ft. (2.75 m) of front of container (6), aligning centerline of truck within 2 in. (5 cm) of container centerline.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

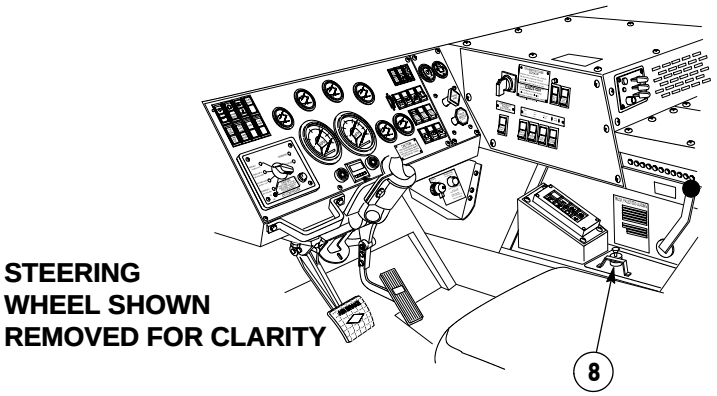
(7) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

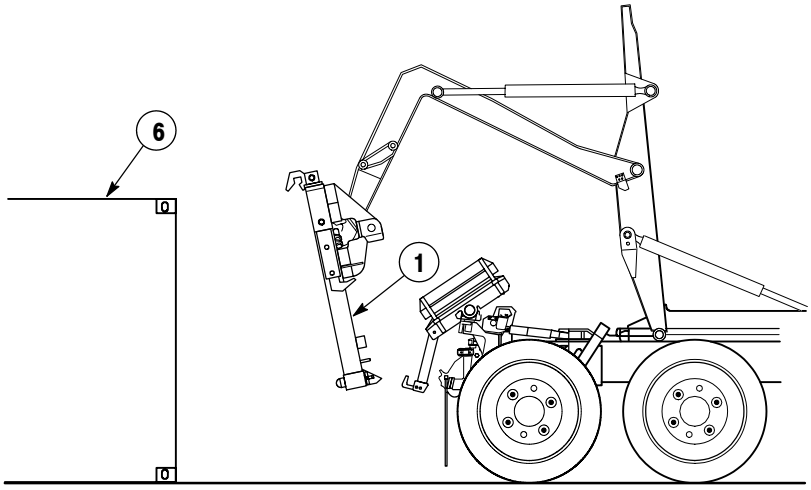
CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(8) Turn hydraulic selector switch (7) to AUTO.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

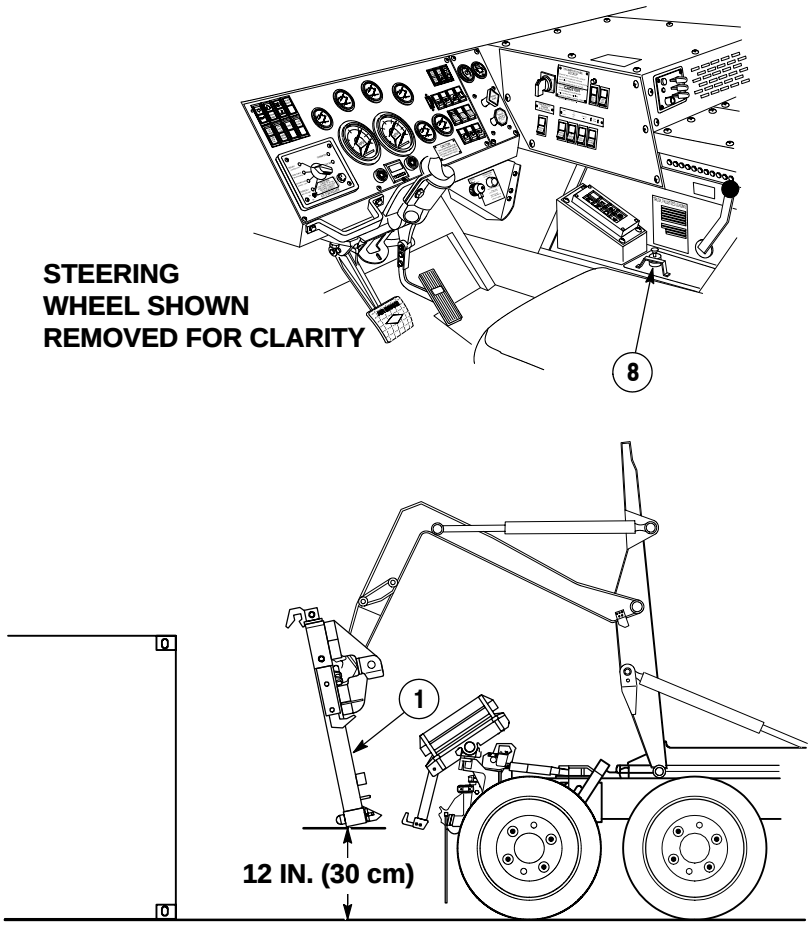




CAUTION

On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Return hydraulic selector to AUTO and continue (UNLOAD) operation. Repeat as required. Failure to comply may result in damage to equipment.

(9) Move joystick (8) to UNLOAD position until lifting frame (1) is positioned in front of container (6).

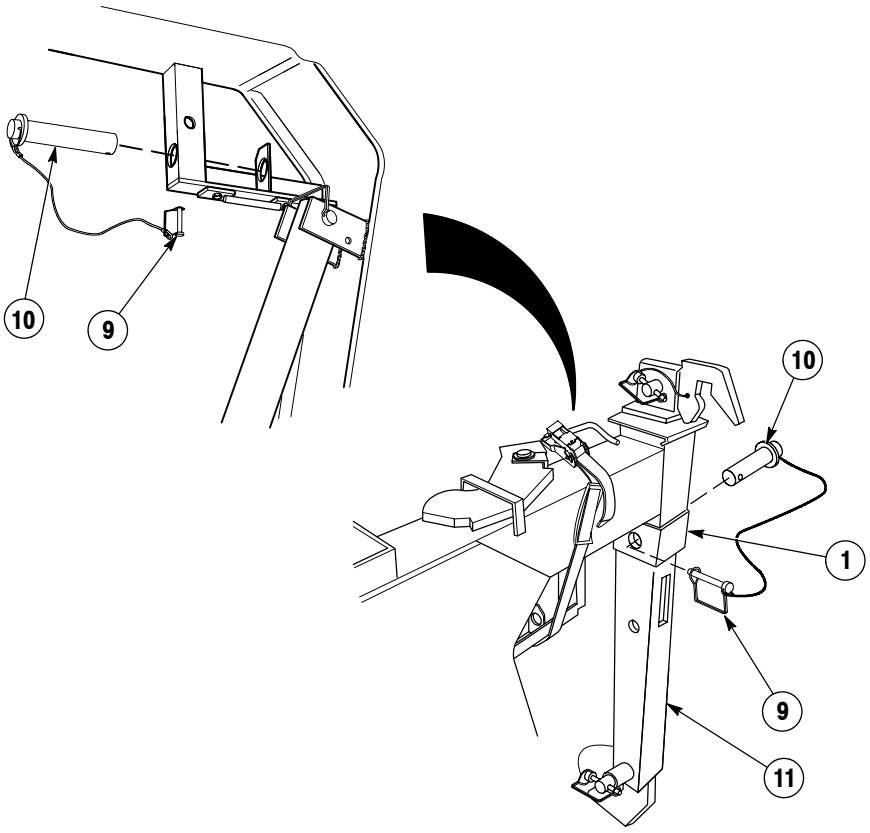


(10) Operate LHS in AUTO mode until lifting frame (1) is approximately 12 in. (30 cm) off of ground.

(11) Release joystick (8).

(12) Shut off engine (Para 2-23).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



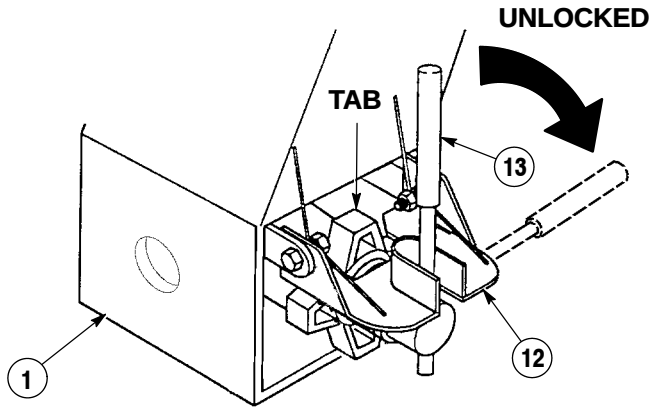
NOTE

- Refer to the lifting frame data plate for the proper configuration needed for the height of each container being loaded.
- There are two slide arms. Right side shown.

(13) Remove lock pin (9) and pin (10) from lifting frame (1) and slide arm (11) upper hole.

(14) Install pin (10) and lock pin (9) in stow position on lifting frame (1).

(15) Repeat Steps (13) and (14) for left side.



NOTE

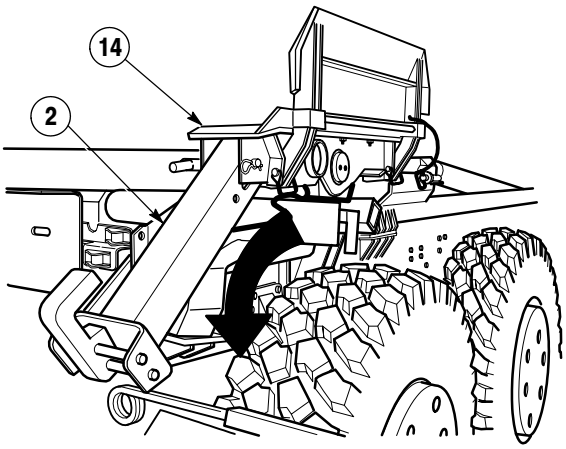
- There are two lifting frame lower container locks and rear sliders. Right side shown.
- Ensure lifting frame lower container lock handle is positioned in slot on handle lock plate.
- Ensure tab on handnut faces up.

(16) Raise handle lock plate (12) and rotate lower container lock handle (13) towards center of lifting frame (1) to unlocked position.

(17) Release handle lock plate (12) on lifting frame (1).

(18) Repeat Steps (16) and (17) for left side.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

Ensure sliders are clear of debris and surfaces are properly greased or damage to equipment may result.

NOTE

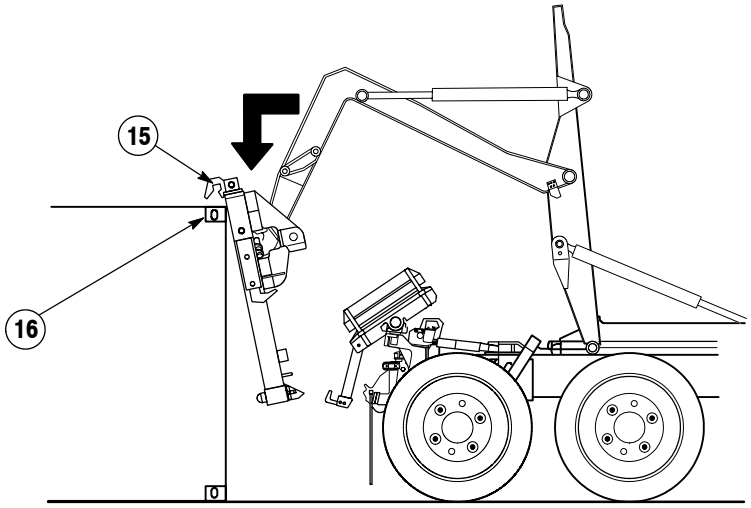
There are two rear sliders and container locks. Right side shown.

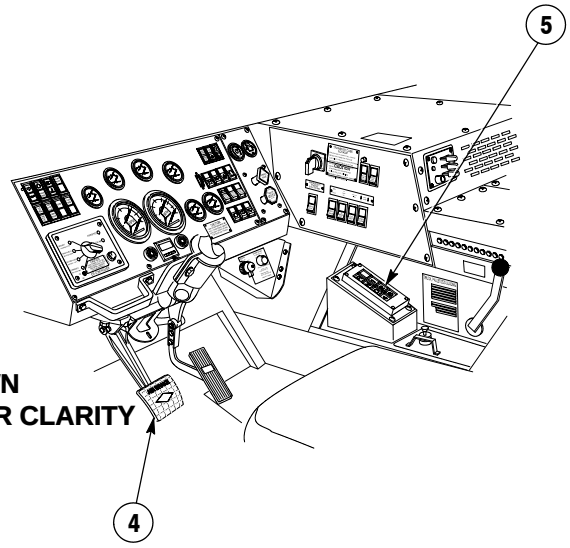
(19) Rotate slider (14) so rear of slider faces down.

(20) Ensure rear container lock (2) is in ready mode or down position (Para 2-32).

(21) Repeat Steps (19) and (20) for left side.

(22) Start engine (Para 2-15).



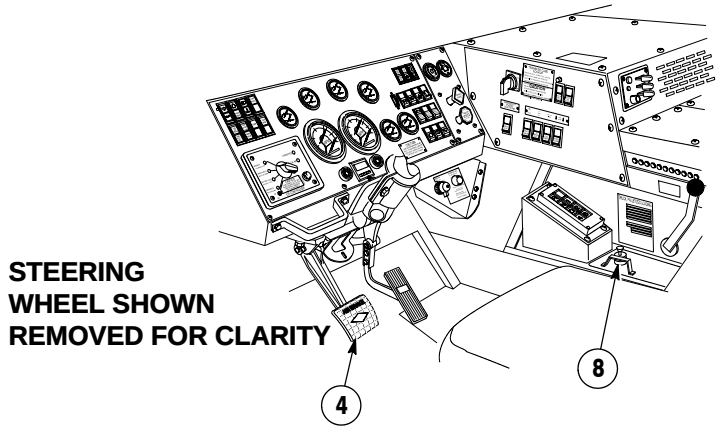


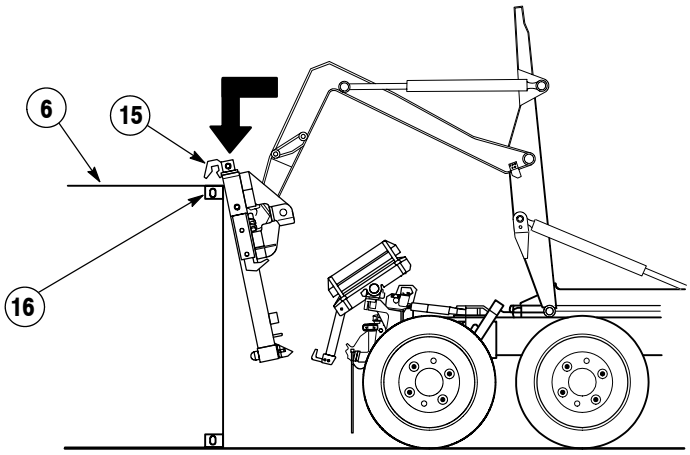
STEERING WHEEL SHOWN REMOVED FOR CLARITY

(23) Position slide arm upper front hooks (15) just above and in front of container upper corner castings (16).

(24) Apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



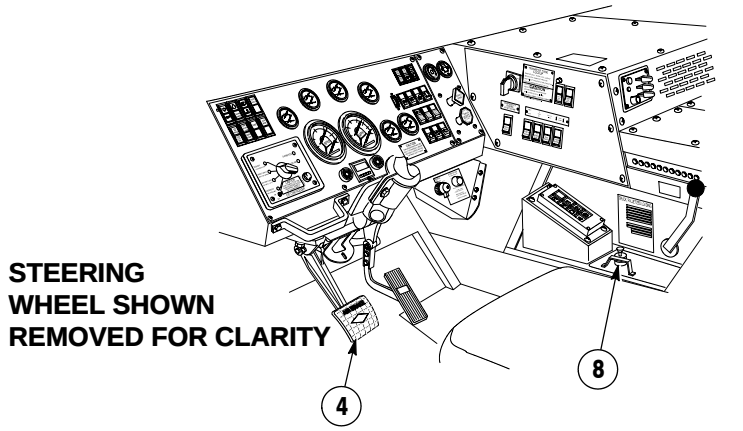


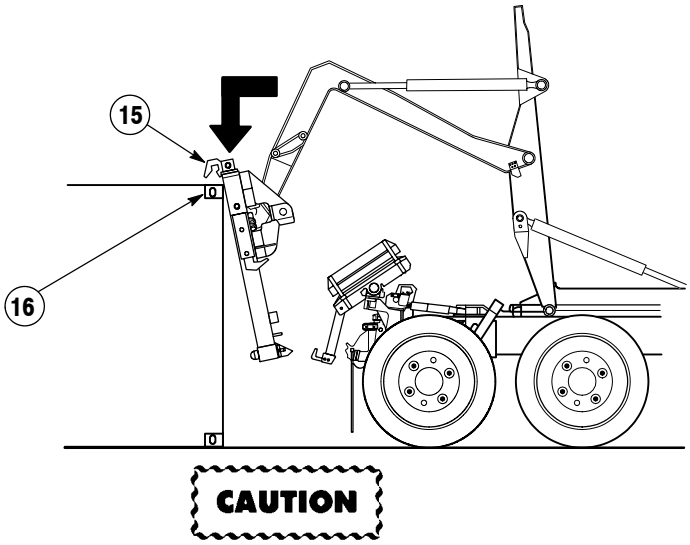
WARNING

Do not allow lifting frame to contact the ground when slide arm upper front hooks are not engaged with container upper corner castings. Failure to comply may result in damage to equipment and injury or death to personnel.

(25) Release service brake pedal (4) and slowly back up to approximately 12 in. (30 cm) from front of container (6).

(26) Apply service brake pedal (4), move joystick (8) to LOAD and raise lifting frame until front hooks (15) are above container upper front corner castings (16).





CAUTION

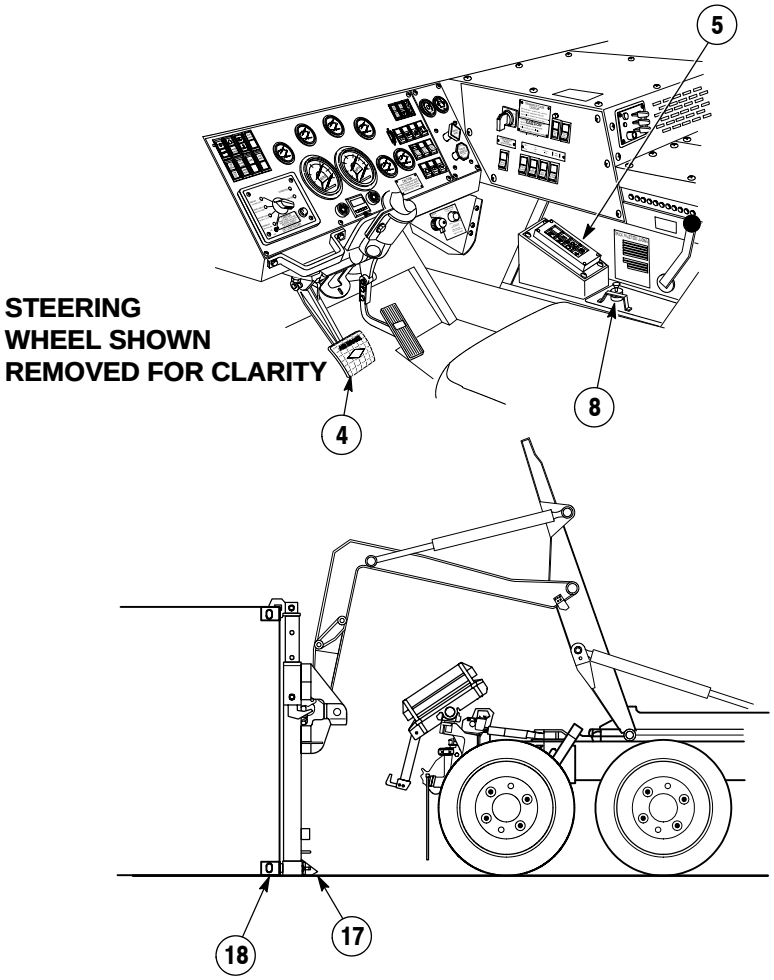
Ensure slide arm upper front hooks are fully engaged with container upper corner castings. Failure to comply may result in damage to equipment.

NOTE

- To get upper hooks to properly seat it may be necessary to drive truck forward slightly.
- When container is on side slope, it may be difficult to get both upper hooks properly seated. Lifting frame hangs level. To get lifting frame to hang closer to same angle as container, it may be necessary to temporarily remove one rear container lock from slider and stow on downhill side of lifting frame.

(27) Release service brake pedal (4) and moving joystick (8) to UNLOAD, lower slide arm upper front hooks (15) into container upper front corner castings (16).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

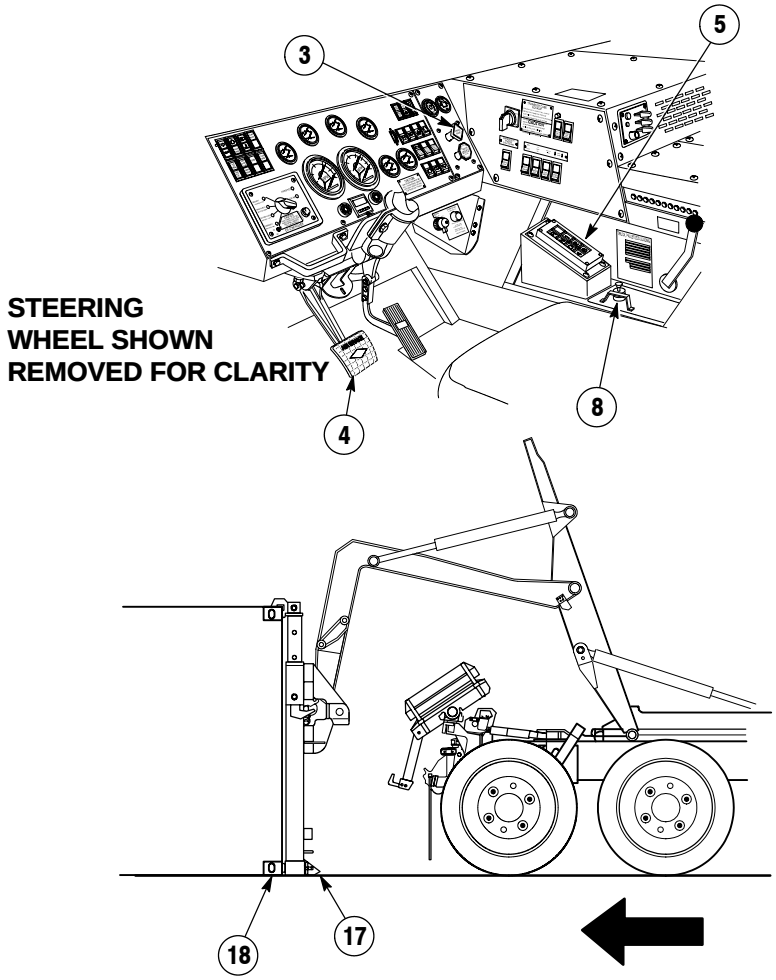


(28) Apply service brake pedal (4) and set transmission range selector (5) to Drive (D).

(29) Release service brake pedal (4) and move truck forward approximately 12 in. (30 cm).

(30) Apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).

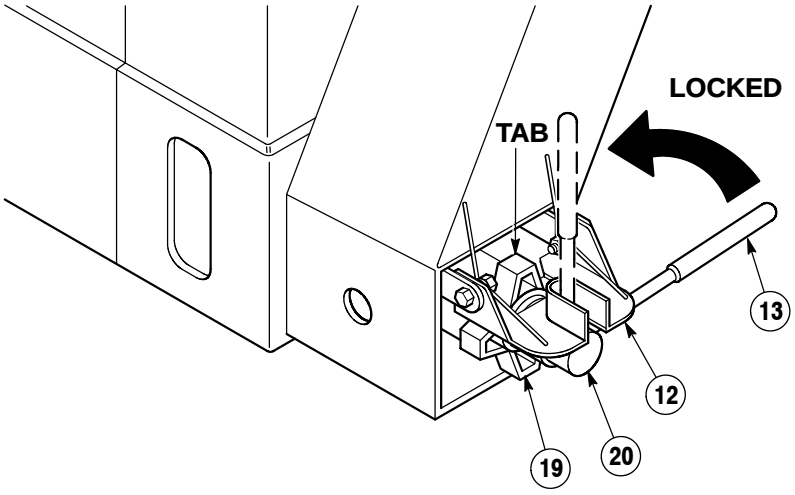
(31) Move joystick (8) to UNLOAD until lower container locks (17) are aligned with container lower front corner castings (18).



(32) Continue backing up truck until lower container locks (17) are seated in container lower front corner castings (18). Apply service brake pedal (4) and release joystick (8).

(33) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

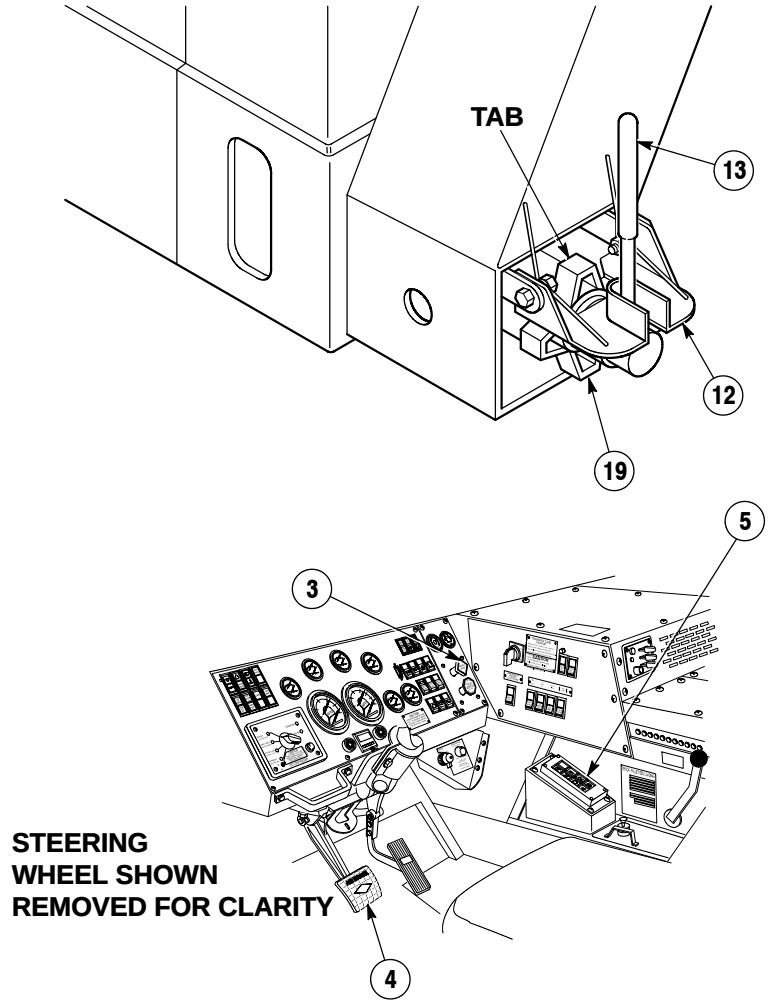
Ensure lower container locks are fully engaged with container lower front corner castings. Failure to comply may result in damage to equipment.

NOTE

- To get container lock handle to rotate, it may be necessary to loosen handnut.
- There are two lower container locks. Right side shown.
- After tightening handnut, it may be necessary to loosen handnut slightly to align tab with handle lock plate.
- Ensure lower container lock handle is secured in slot on handle lock plate.

(34) Hold handle lock plate (12) up and rotate lower container lock handle (13) up in the locked position.

(35) Turn handnut (19) clockwise and tighten stem (20).



NOTE

Ensure tab on handnut faces up.

(36) Lower handle lock plate (12) over lower container lock handle (13) and handnut (19) tab.

(37) Repeat Steps (34) through (36) for left side.

(38) Set the transmission range selector (5) in Neutral (N), push in parking brake knob (3) to release parking brakes and release service brake pedal (4).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

WARNING

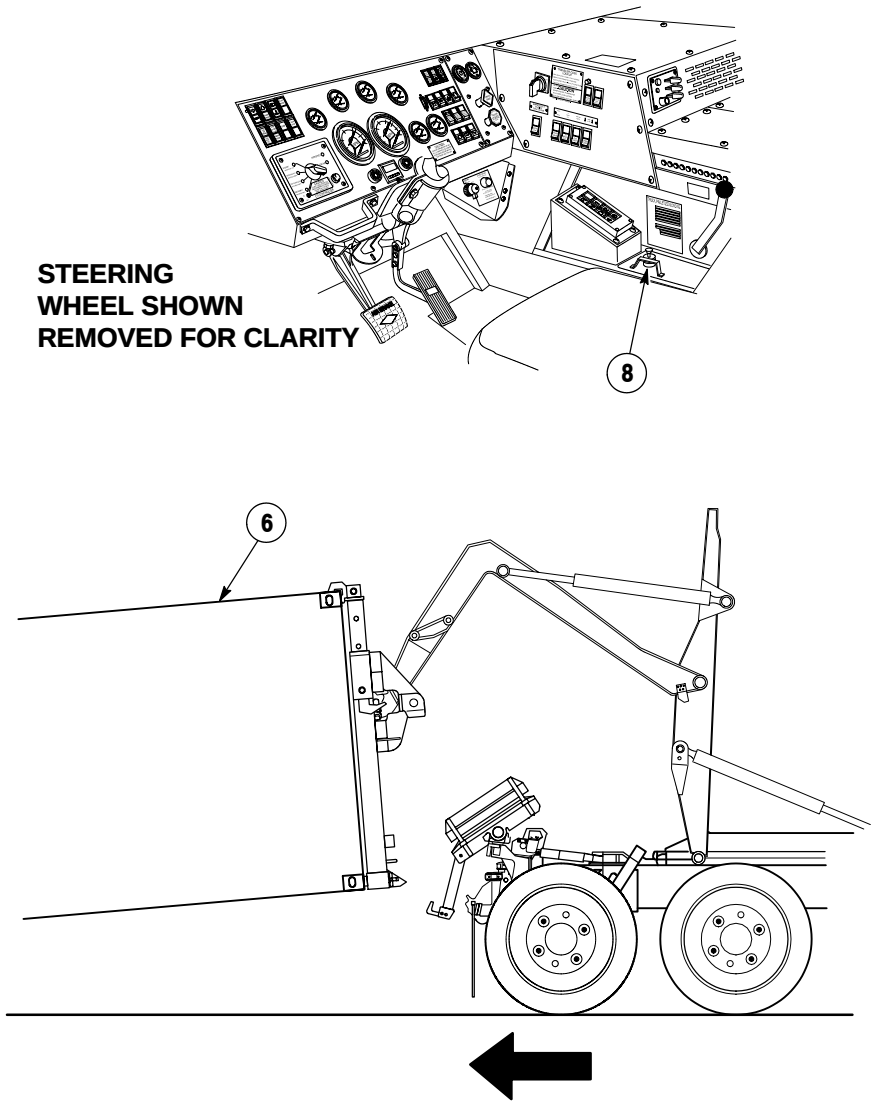
When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

CAUTION

- If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should notify supervisor if it appears payload is unevenly distributed in container or if container load exceeds 35,000 lbs. (15,890 kg). If any of these conditions exist, payload must be redistributed or reduced or damage to equipment may result.
- Load must be evenly distributed in the container. Uneven load distribution may cause the LHS overload indicator to give false signals and cause the LHS to operate incorrectly. Damage to equipment may result.
- If LHS overload lamp illuminates and normal operation has stopped, return load to original position and notify supervisor to have payload redistributed or weight reduced. Failure to comply may result in damage to equipment.
- Ensure parking brake is not applied before starting load sequence or damage to equipment may occur.

NOTE

- The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.
- If container is extremely light or empty, it may be necessary to place transmission range selector to Reverse (R) and allow truck to roll under container.
- If container is not centered, and transit locks can not be installed and pinned, repeat Steps (38) through (46) to reposition container.



(39) Move joystick (8) to LOAD, allowing truck to be pulled under container (6).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

WARNING

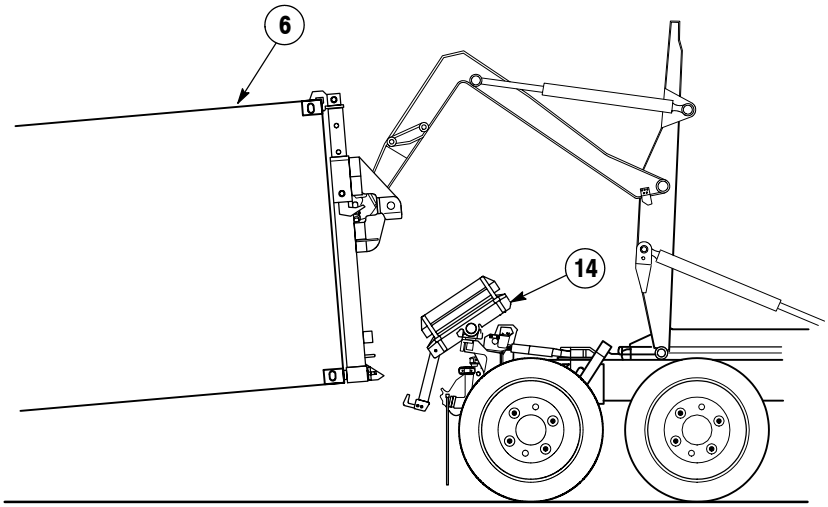
Ensure that container has contacted rear sliders correctly and is between guides. Failure to comply may result in serious injury or death to personnel and damage to equipment.

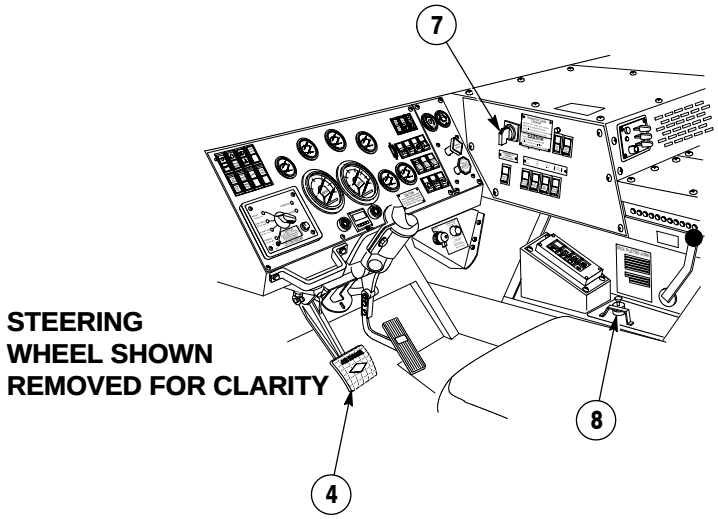
CAUTION

Reduce engine speed to idle before container contacts rear sliders or damage to equipment may result.

NOTE

- LHS overload lamp may illuminate when lifting container from unusual conditions.
- As load is lifted, truck will be pulled under container. Some steering wheel adjustment may have to be made to ensure that container contacts rear sliders correctly and is between guides.





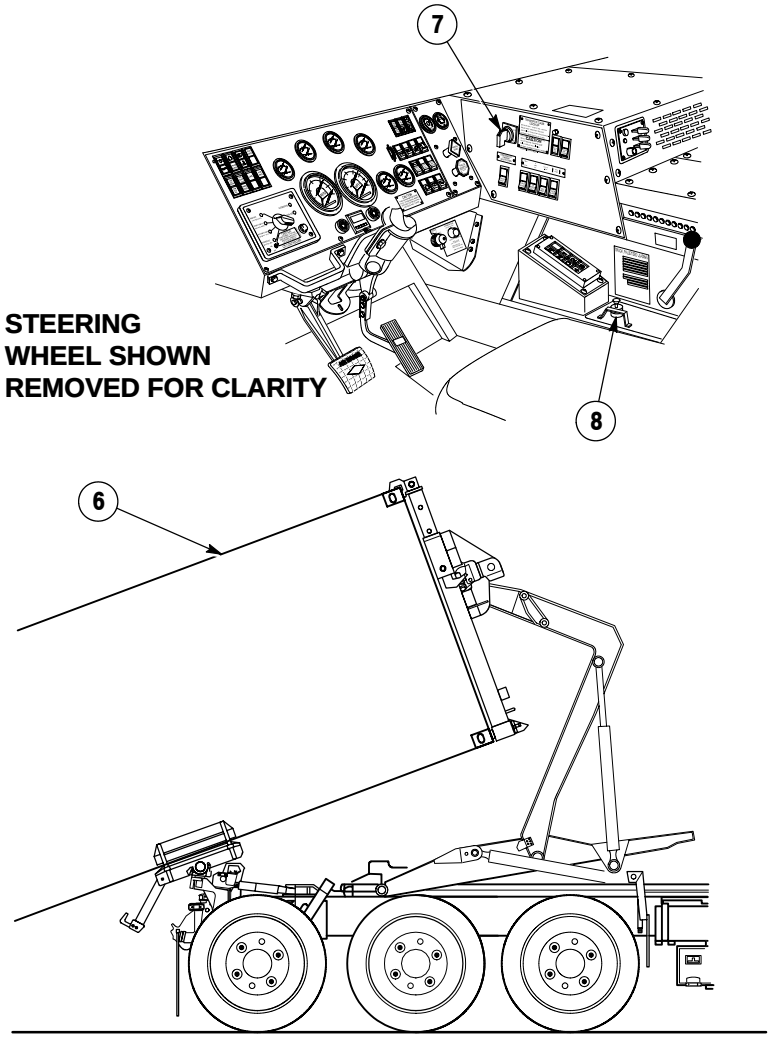
(40) As container (6) contacts rear sliders (14), reduce engine speed to idle and apply service brake pedal (4).

NOTE

If container is being loaded in soft soil conditions, perform Steps (41) through (43).

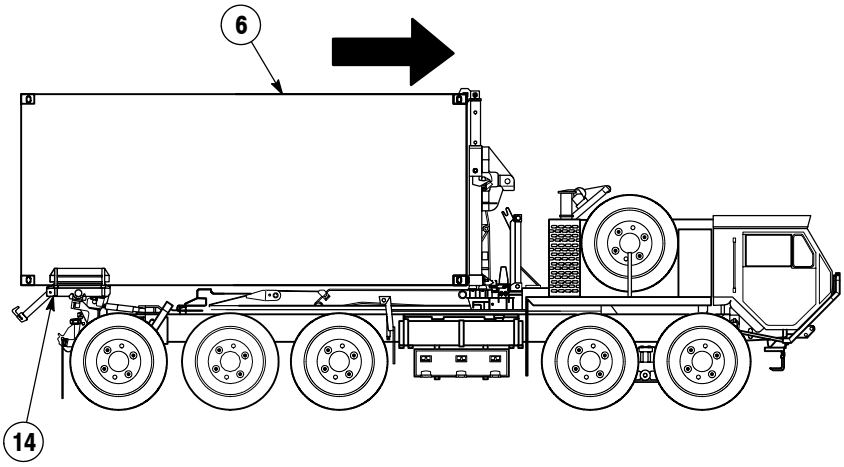
(41) Release joystick (8). Set hydraulic selector switch (7) to MAN H.A.

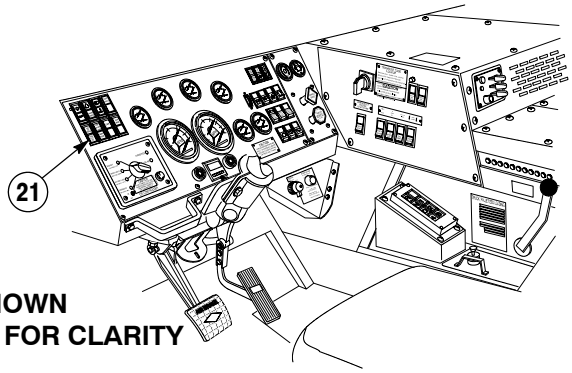
2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



(42) Move joystick (8) to LOAD until container (6) is approximately 2 ft. (0.61 m) off the ground. Release joystick.

(43) Set hydraulic selector switch (7) to AUTO. Resume normal AUTO operations.





STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

Engine speed may be increased and decreased to ease loading.

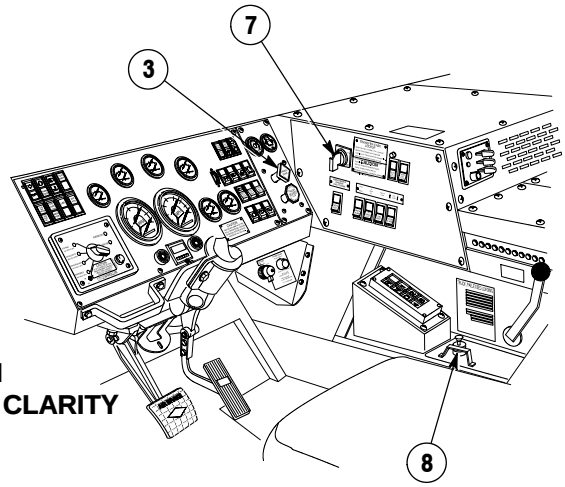
(44) After container (6) contacts rear sliders (14), increase engine speed to approximately 1500 rpm until container is almost loaded. Reduce engine speed to idle.

CAUTION

After loading operations using CHU kit and container and the LHS NO TRANSIT indicator goes off, operator must release the joystick from the LOAD position. Failure to release the joystick may cause LHS OVER LOAD indicator to illuminate and hydraulic cylinders to remain active, forcing a temporary bow in the LHS frame, resulting in contact between LHS and container.

(45) Continue loading until container (6) is fully loaded and LHS NO TRANS lamp (21) goes out.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

(46) Release joystick (8).

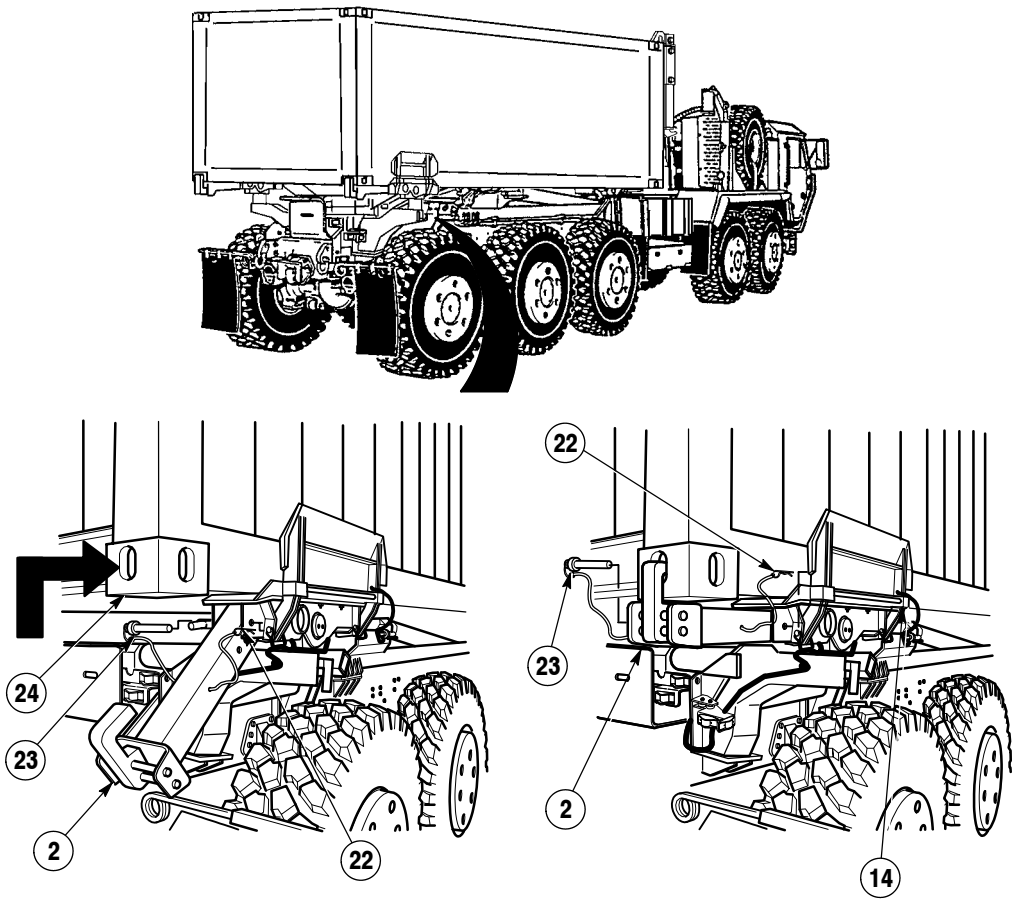
(47) Pull out parking brake knob (3) to apply parking brake.

CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.

(48) Turn hydraulic selector switch (7) to OFF.

(49) Shut off engine (Para 2-23).



NOTE

- There are two rear container locks. Right side shown.
- If container is not centered and transit locks cannot be installed and pinned, repeat Steps (39) through (49) to reposition container.

(50) Support rear container lock (2) and remove lock pin (22) and pin (23).

(51) Rotate rear container lock (2) up and position into container lower rear corner casting (24).

(52) Install pin (23) and lock pin (22) in rear container lock (2) and slider (14).

(53) Perform Steps (50) through (52) for left side.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

b. Unloading

WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a container. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS, lifting frame, and container or serious injury or death may result.

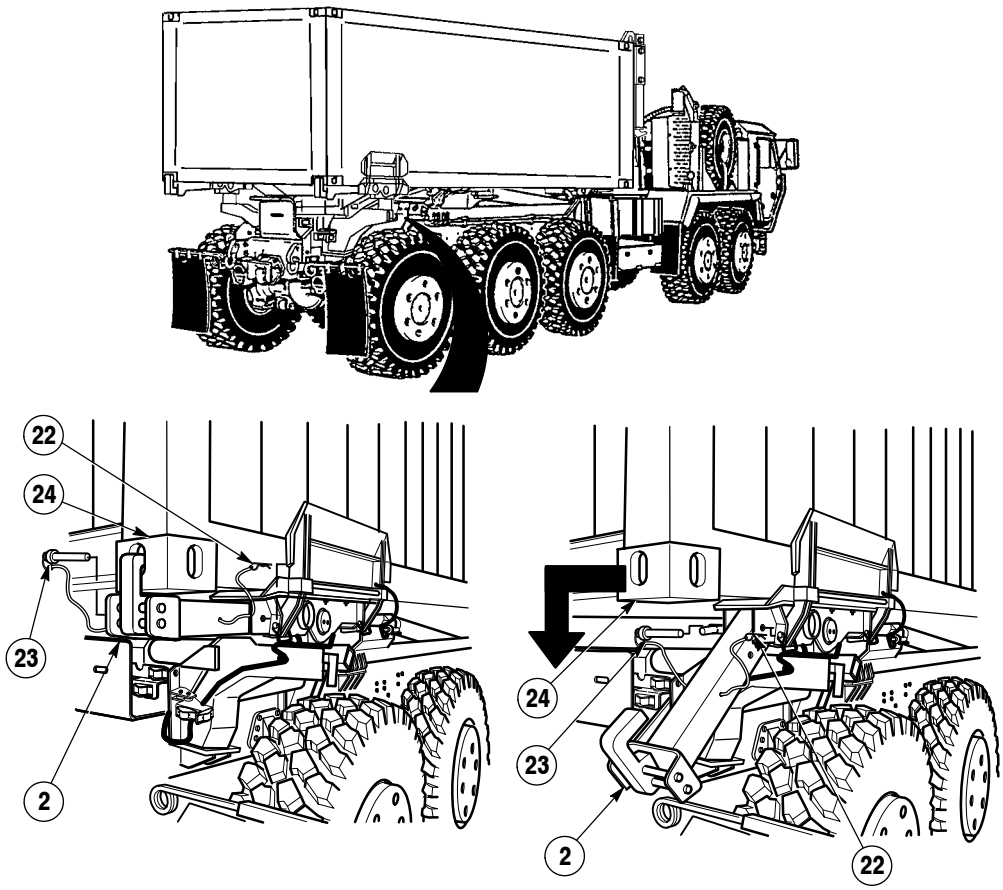
CAUTION

- Check that ground conditions where container will be placed can support the container weight or damage to the container, lifting frame or LHS may result.
- Use extreme caution when loading/unloading container with side doors. Container must remain centered during loading/ unloading or flanges on side may be damaged and/or door hinges may make hard contact with guides.

NOTE

For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-loading a Flatrack in Auto Mode”.

(1) Check area for operating room at front and rear of truck. Check overhead clearance and ground conditions.



NOTE

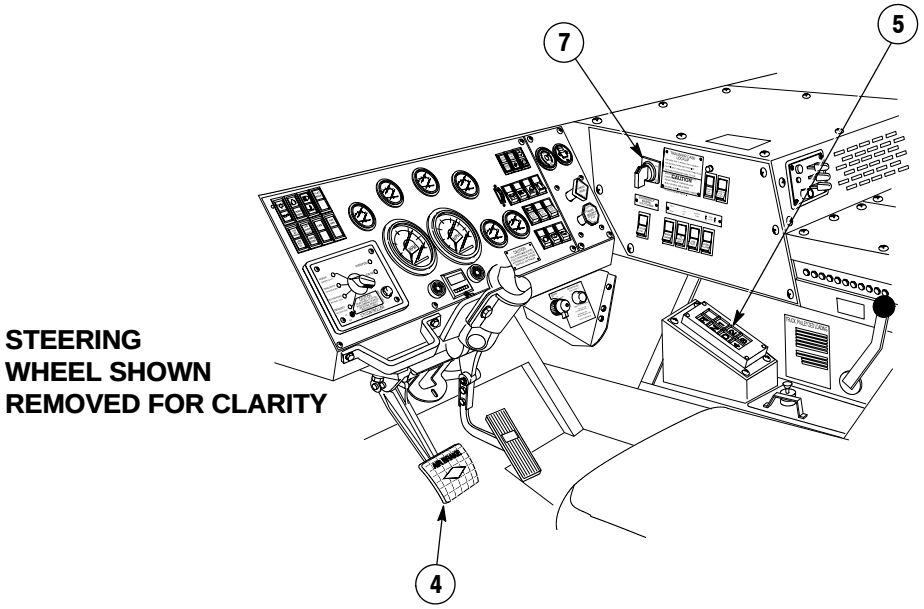
- There are two rear container locks. Right side shown.
- It may be necessary to loosen rear container lock using hammer from BII.

(2) Remove lock pin (22), pin (23) and rear container lock (2) from lower rear corner casting (24).

(3) Rotate rear container lock (2) in down position and install pin (23) and lock pin (22).

(4) Perform Steps (2) and (3) for left side.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

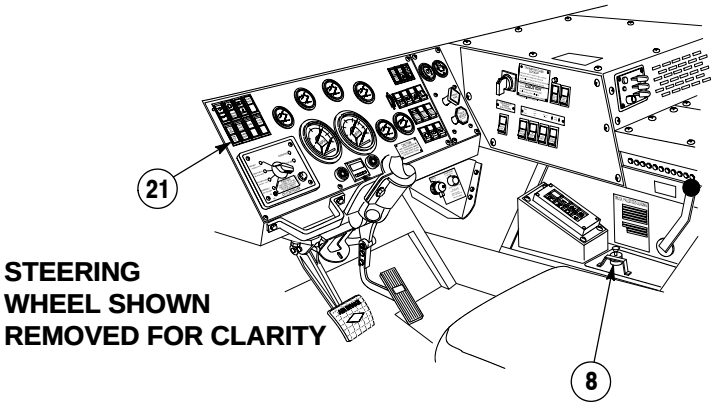
(5) Start engine (Para 2-15).

(6) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

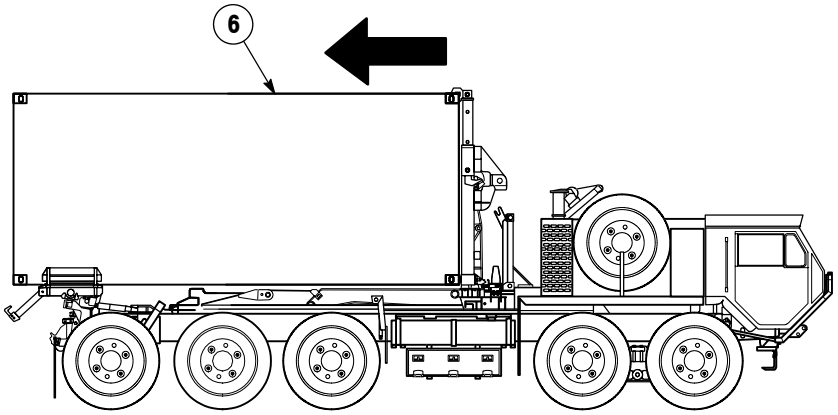
CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(7) Turn hydraulic selector switch (7) to AUTO.



STEERING WHEEL SHOWN REMOVED FOR CLARITY



WARNING

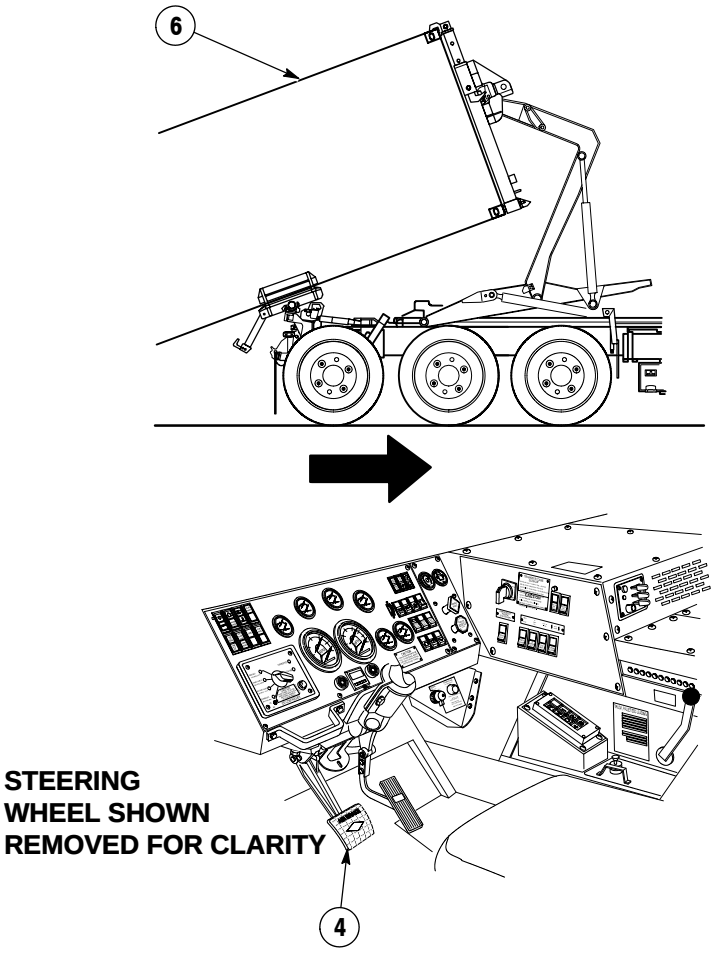
When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

NOTE

LHS will not operate and unload if rear container locks are engaged.

(8) Move joystick (8) to UNLOAD. Container (6) will start to move rearward. LHS NO TRANS lamp (21) will illuminate. Maintain engine speed at idle until front of container raises approximately 12 in. (30 cm).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

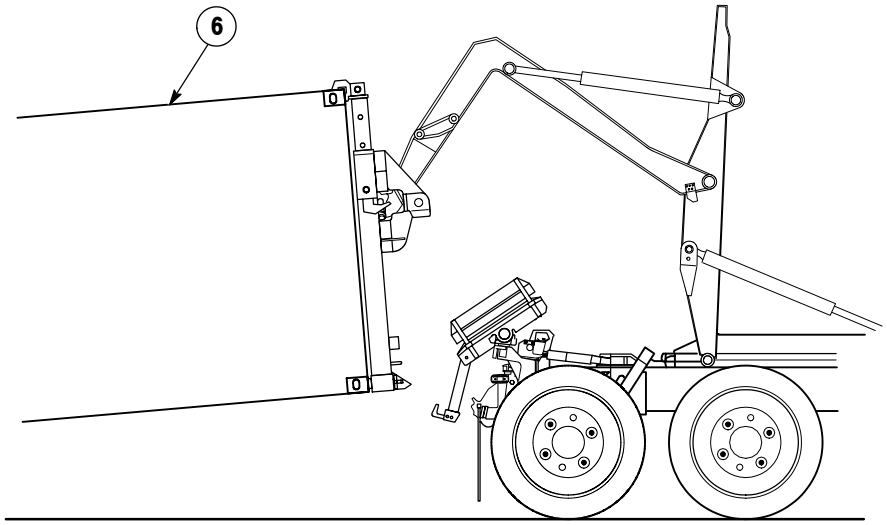


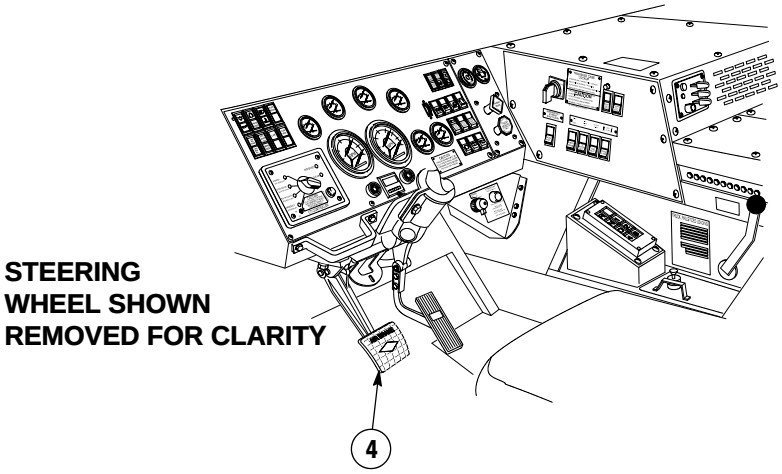
NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

(9) Continue to unload container (6) until back edge of container touches ground.

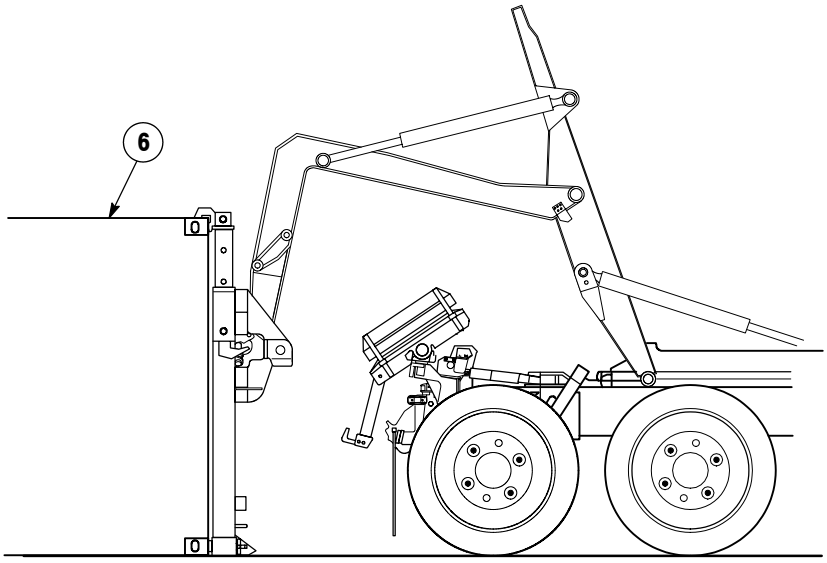
(10) Release service brake pedal (4) and allow container (6) to push truck forward from under container.





(11) As front of container (6) approaches within approximately 8 in. (20.3 cm) of ground, decrease engine speed to idle and apply service brake pedal (4).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



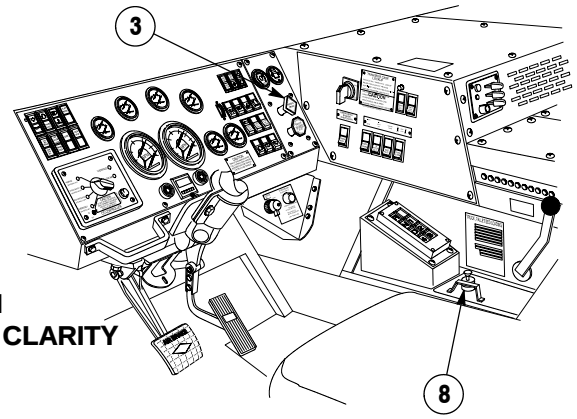
CAUTION

Once truck's rear suspension has been relieved of container load, do not continue in UNLOAD position as possibility of jacking up the rear of truck with hook arm may occur and damage to equipment may result.

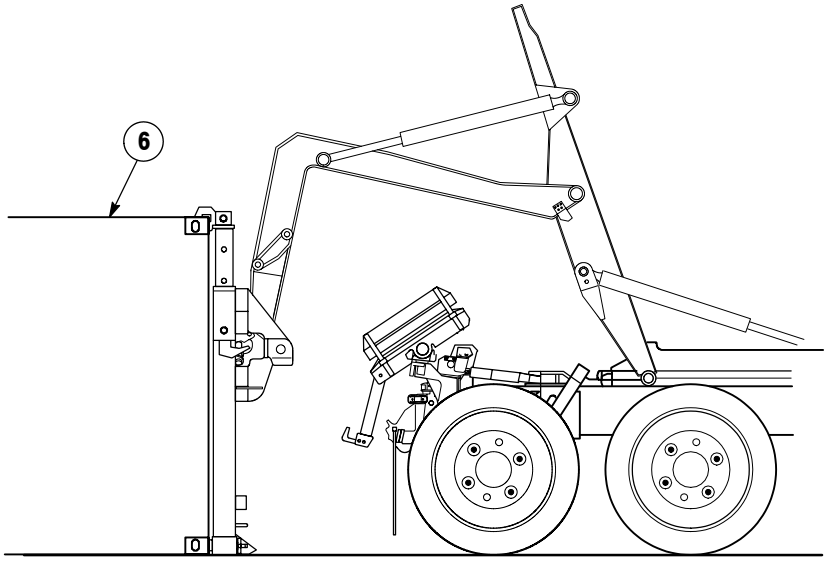
NOTE

If container is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) and allow truck to move out from under container.

(12) Continue unloading until bottom of container (6) is on ground and rear suspension is unloaded.



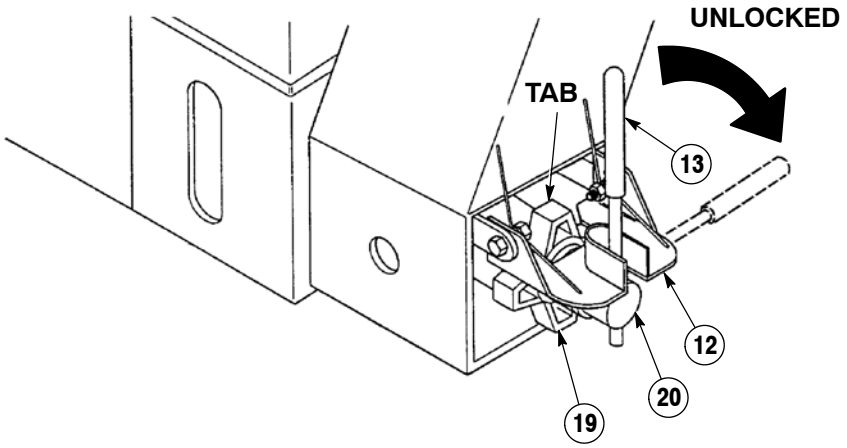
STEERING WHEEL SHOWN REMOVED FOR CLARITY



(13) Release joystick (8) when container (6) is resting on ground.

(14) Pull out parking brake knob (3) to apply parking brakes.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



WARNING

Ensure that all tension has been relieved between LHS hook and lifting frame prior to unlocking lifting frame lower container locks. Stay clear of lifting frame when unlocking lifting frame lower container locks as lifting frame may separate from container unexpectedly. Failure to comply may result in serious injury or death to personnel.

NOTE

There are two lifting frame lower container locks. Right side shown.

(15) Raise handle lock plate (12) and turn handnut (19) counterclockwise and loosen stem (20).

NOTE

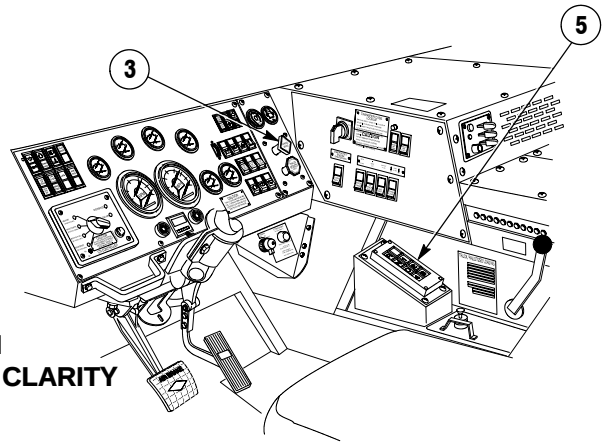
Ensure tab on handnut faces up.

(16) Rotate lower container lock handle (13) towards center of truck to unlocked position.

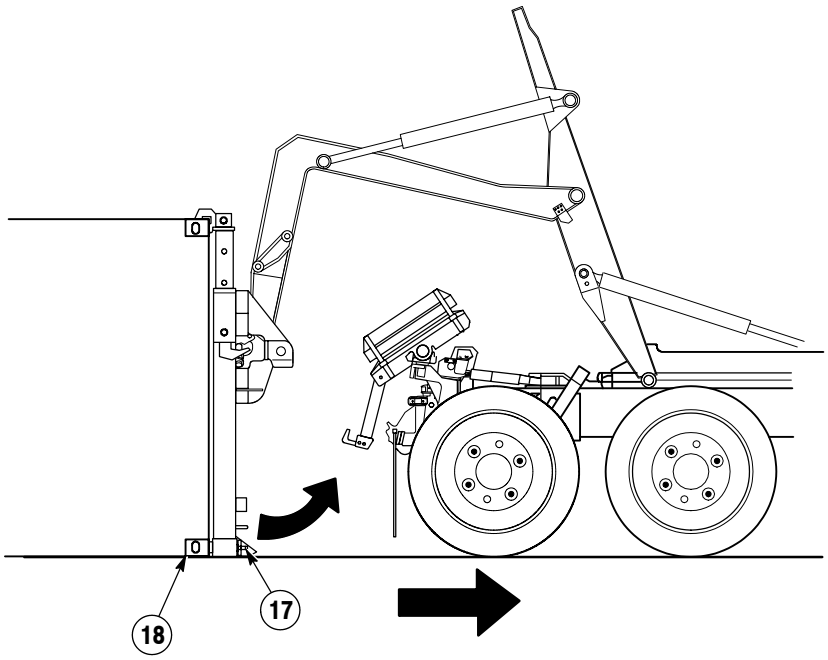
CAUTION

Handnut must be tightened clockwise to tighten stem. Failure to tighten stem may cause damage to equipment during next container loading procedure.

(17) Turn handnut (19) clockwise and tighten stem (20).
(18) Release handle lock plate (12) over container lock handle and handnut (19) tab.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

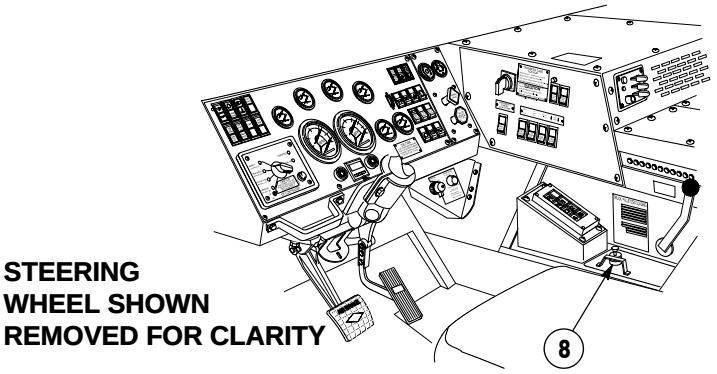


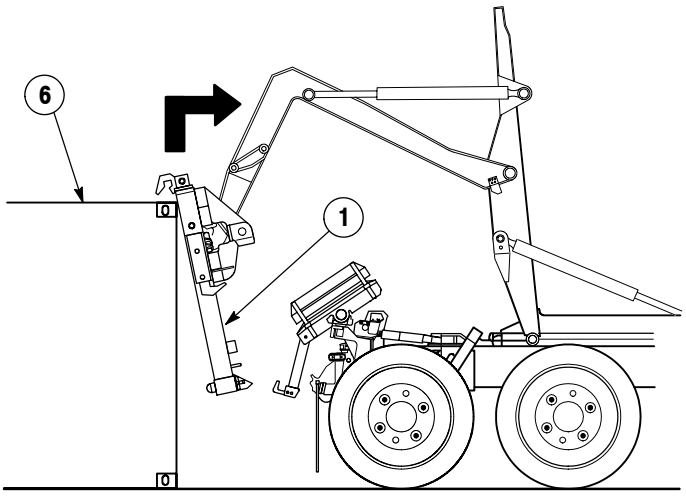
(19) Repeat Steps (15) through (18) for left side.

(20) Push in parking brake knob (3) and release parking brakes. Set transmission range selector (5) to Drive (D).

(21) Move truck forward until lower container locks (17) disengage from lower front corner castings (18) approximately 4 to 6 in. (10 to 15 cm).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





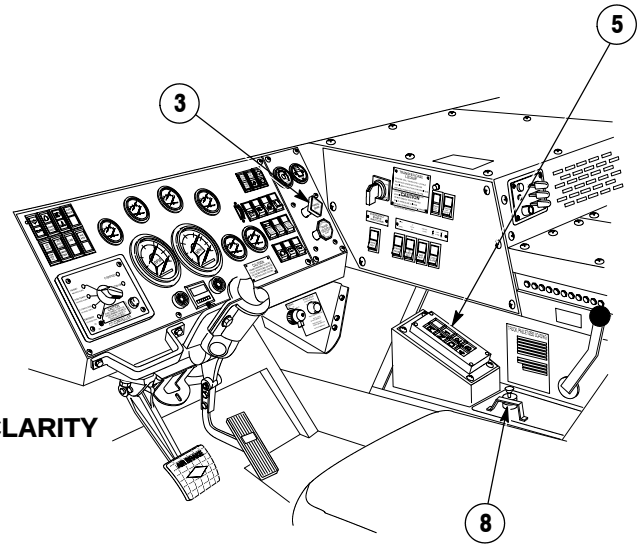
CAUTION

Ensure that the slide arm upper front hooks are completely disengaged and do not hang up in container upper corner castings when retracting LHS. Failure to comply may result in damage to the slide arm upper front hooks and/or container.

NOTE

It may be necessary to move the truck forward or backward slightly to get the slide arm upper front hooks to disengage.

(22) Move joystick (8) to LOAD position until lifting frame (1) is disengaged from container (6).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

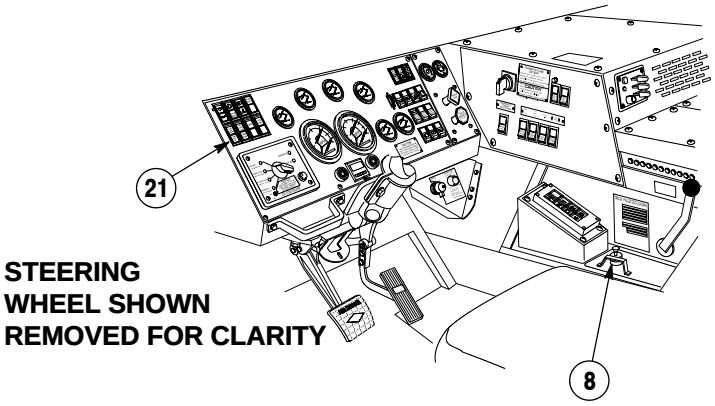
(23) Release joystick (8).

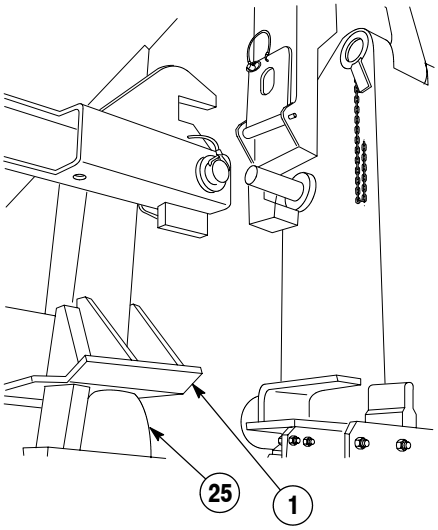
(24) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.

CAUTION

- On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Switch hydraulic selector to MAN M.F. and retract the mainframe until the lifting frame clears the rear sliders. Return hydraulic selector to AUTO and continue (LOAD) operation. Failure to comply may result in damage to equipment.
- Never drive with LHS NO TRANS lamp illuminated. An illuminated lamp means that the LHS is not fully stowed. Failure to comply may result in damage to equipment.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

(25) Move joystick (8) to LOAD position until LHS is fully retracted and lifting frame (1) is positioned on bumper supports (25). LHS NO TRANS lamp (21) will go out indicating LHS is in transport position.

(26) Release joystick (8).

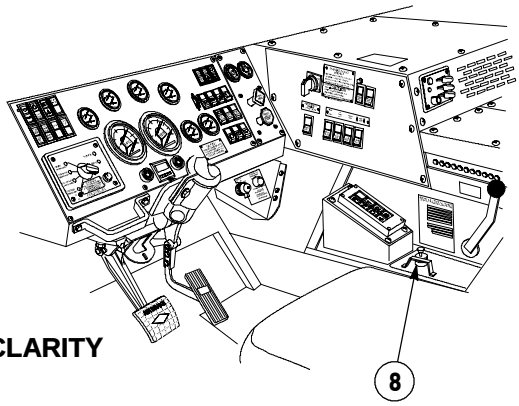
NOTE

If lifting frame is not sitting properly on bumper supports, perform Steps (26.1) through (26.3).

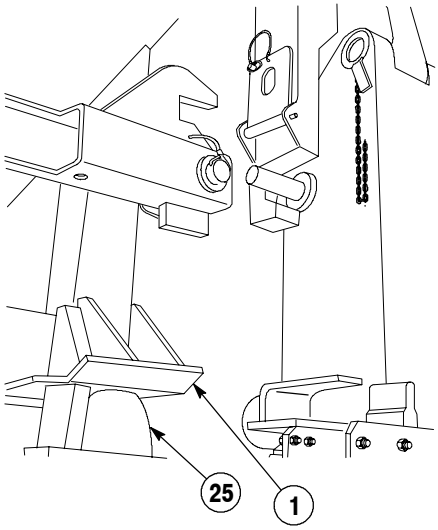
(26.1) Operate vehicle a short distance to nearest level ground.

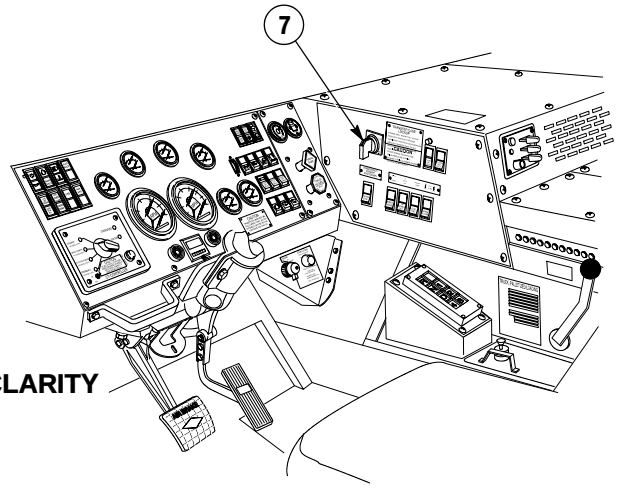
(26.2) Move joystick to UNLOAD position to raise lifting frame (1) approximately three feet up.

(26.3) Move joystick (8) to LOAD position until LHS is fully retracted and lifting frame (1) is positioned on bumper support (25).



STEERING WHEEL SHOWN REMOVED FOR CLARITY





STEERING WHEEL SHOWN REMOVED FOR CLARITY

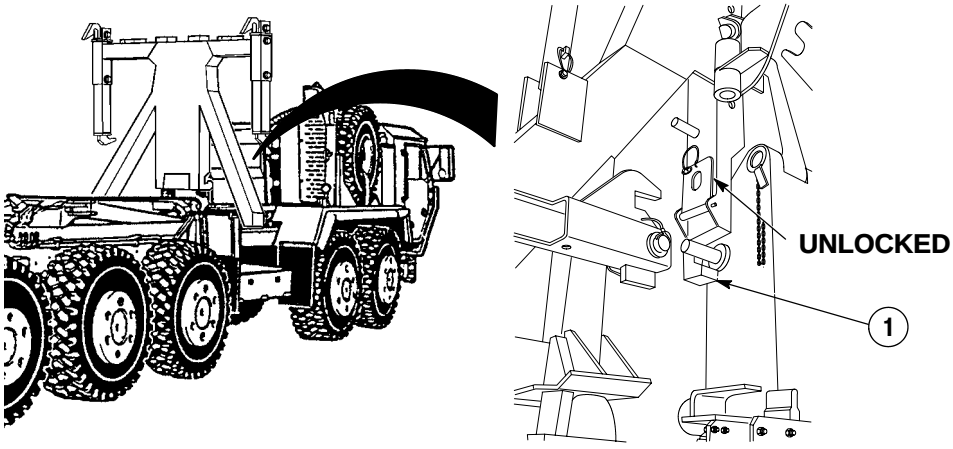
CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.

(27) Turn hydraulic selector switch (7) to OFF.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF).

a. Loading



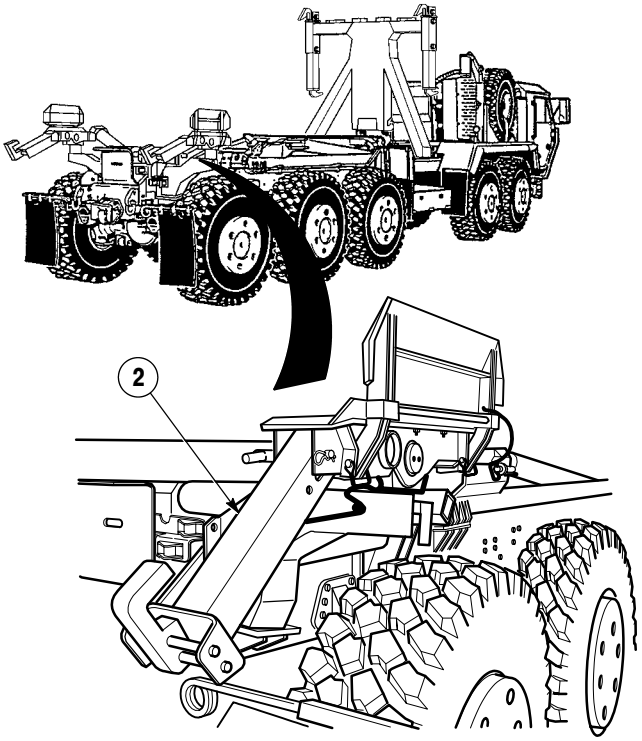
WARNING

Lifting frame weighs 1600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

CAUTION

Ensure lifting frame is in the unlocked position before attempting to load a container to truck. Failure to comply will result in damage to equipment.

(1) Ensure lifting frame (1) is in container mode (Para 2-32) and unlocked (Para 2-37).



CAUTION

Ensure truck is in container mode before attempting to load a container to truck. Failure to comply will result in damage to equipment.

(2) Ensure truck is in container mode, refer to (Para 2-32).

(3) Ensure rear container lock (2) is in ready mode, refer to (Para 2-32).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Maximum permissible gross container weight is 35,000 lbs. (15,890 kg).
- Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.
- Do not stand between lifting frame and container. Truck could roll, crushing personnel between them causing serious injury or death.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.

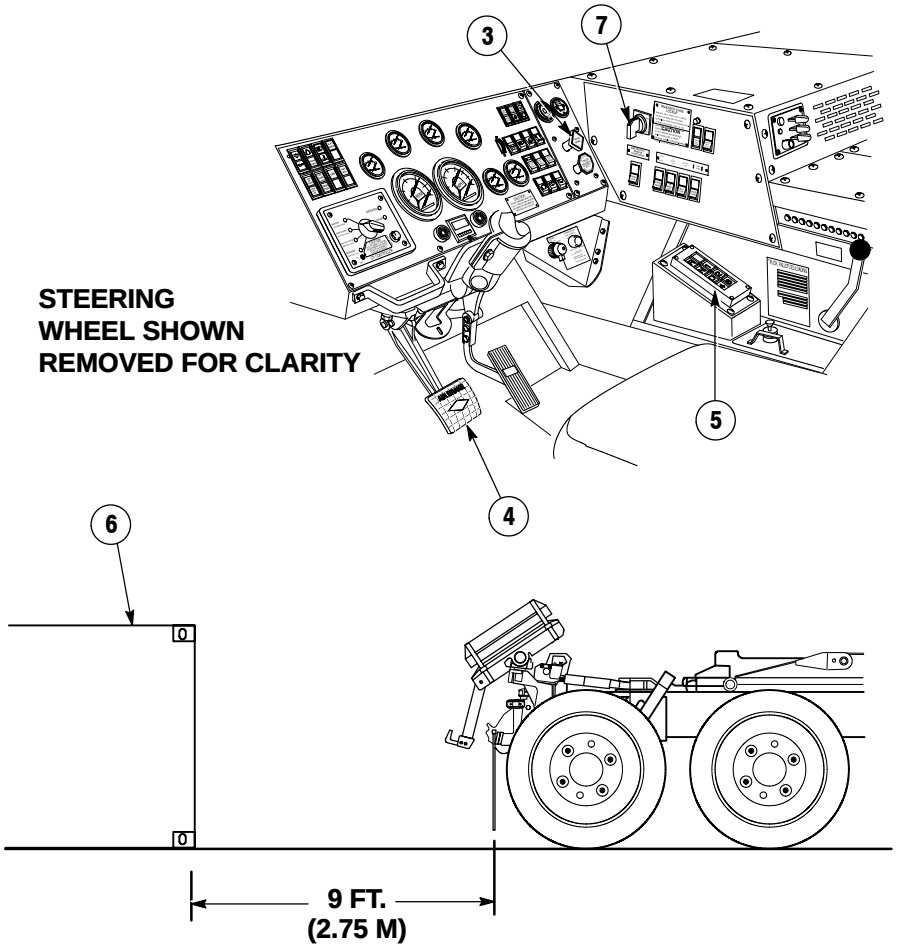
CAUTION

- Use extreme caution when loading/unloading container with side doors. Container must remain centered during loading/unloading or flanges on side may be damaged and/or door hinges may make hard contact with guides.
- When operating CHU with non-standard, end-opening, 20 ft. long shipping containers, operator needs to take extra care to ensure that sliders and guides contact container properly, container slides on sliders properly, and container loads centered on truck. Failure to comply can result in container getting hung up or making hard contact with sliders and guides, causing damage to CHU or container.

NOTE

- For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) **"**LHS Controls and Indicators", (Para 2-29b.) "Picking-up a Flatrack in Auto Mode", and (Para 2-29c.) "Off-loading a Flatrack in Auto Mode".
- Rear mud flaps may be pinned up to provide better visibility of lifting frame lower container locks.
- Multiple connected containers can not be used with CHU. This includes Six CONS and Quad CONS.
- It is recommended that two personnel be used to ease operation (Driver and Spotter to position lifting frame).

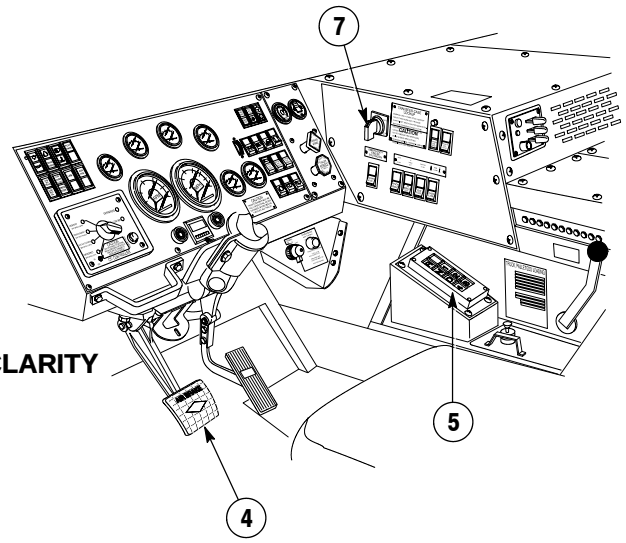
(4) Start engine (Para 2-15).



(5) Push in parking brake knob (3), apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).

(6) Release service brake pedal (4) and position rear of truck within 9 ft. (2.75 m) of front of container (6), aligning centerline of truck within 2 in. (5 cm) of container centerline.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



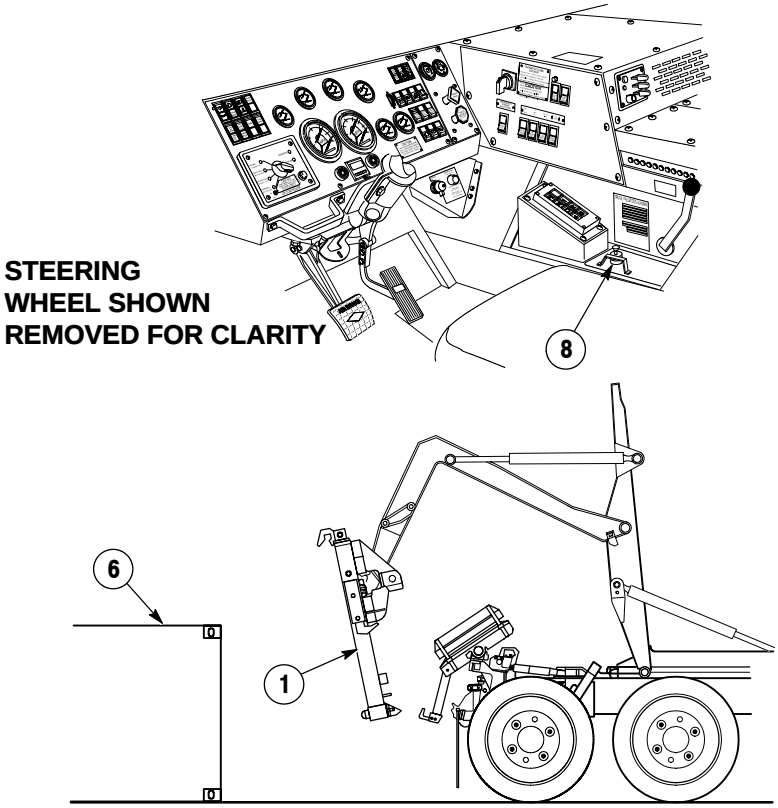
STEERING WHEEL SHOWN REMOVED FOR CLARITY

(7) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(8) Turn hydraulic selector switch (7) to AUTO.

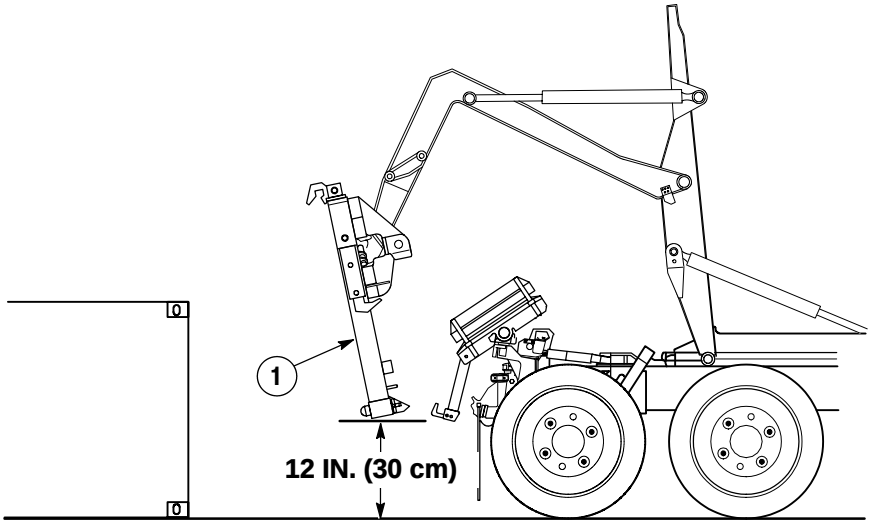


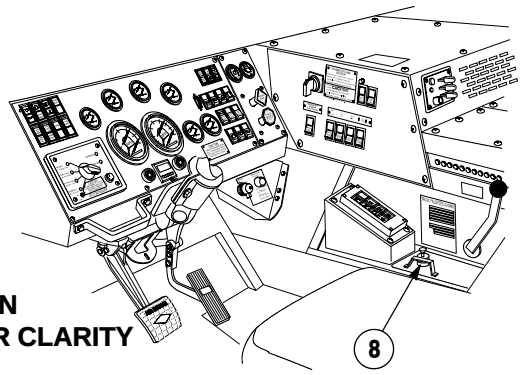
CAUTION

On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Return hydraulic selector to AUTO and continue (UNLOAD) operation. Repeat as required. Failure to comply may result in damage to equipment.

(9) Move joystick (8) to UNLOAD position until lifting frame (1) is positioned in front of container (6).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

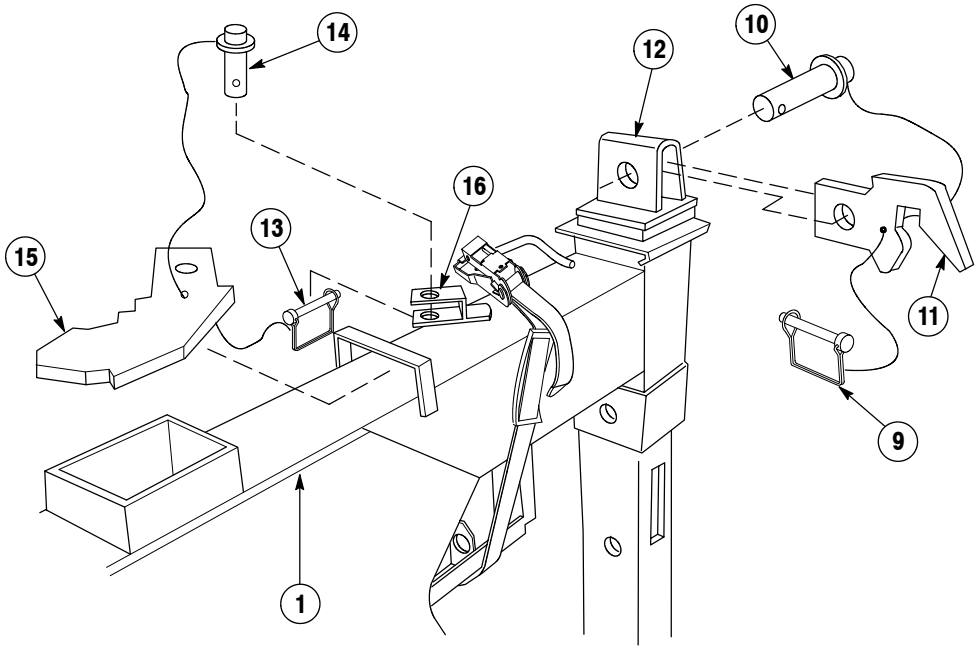




(10) Operate LHS in AUTO mode until lifting frame (1) is approximately 12 in. (30 cm) off of ground.

(11) Release joystick (8).

(12) Shut off engine (Para 2-23).



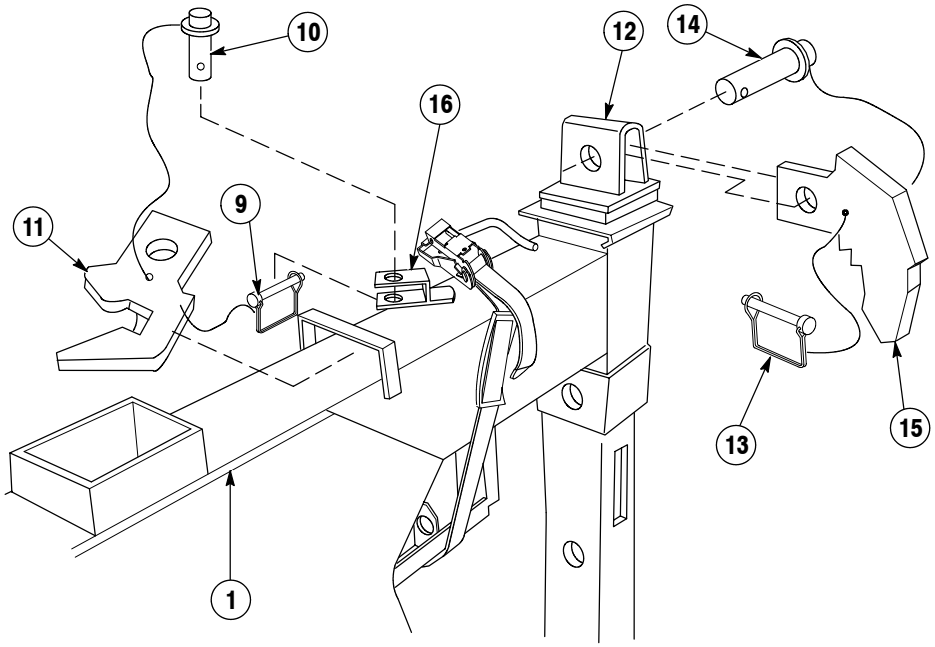
NOTE

- Refer to the lifting frame data plate for the proper configuration needed for the height of each container being loaded.
- There are two slide arms. Right side shown.

(13) Remove lock pin (9), pin (10) and standard hook (11) from slide arm (12).

(14) Remove lock pin (13), pin (14) and 6 foot hook (15) from stowage bracket (16) on lifting frame (1).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

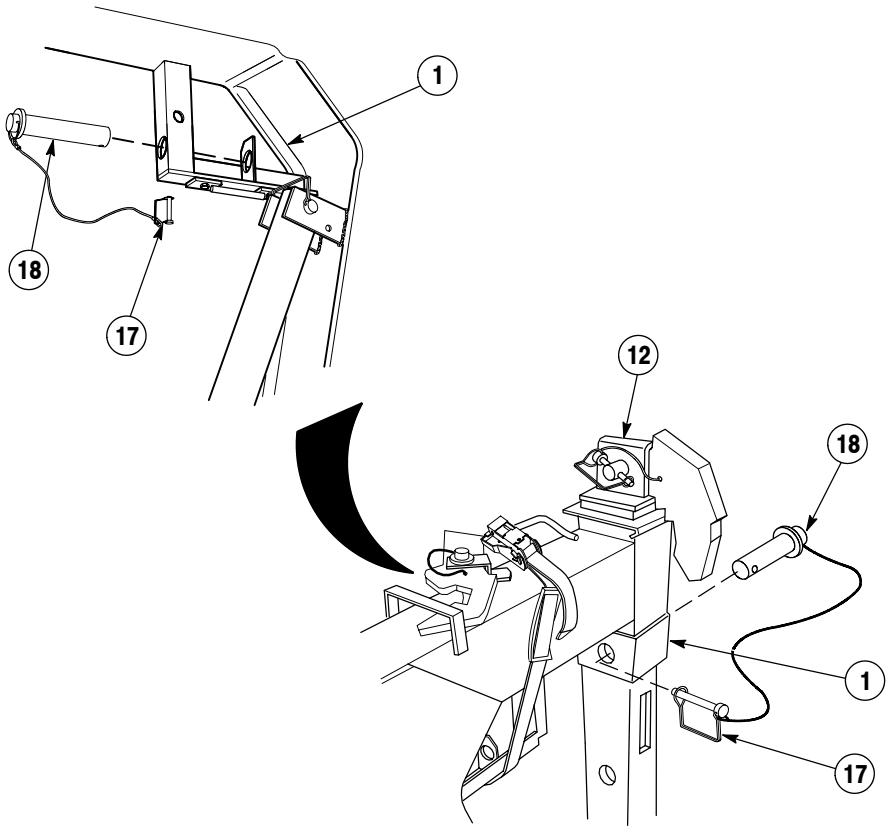


NOTE

Ensure 6 foot hook faces down when installed.

(15) Install 6 foot hook (15), pin (14) and lock pin (13) in slide arm (12).

(16) Install standard hook (11), pin (10) and lock pin (9) in stowage bracket (16) on lifting frame (1).



NOTE

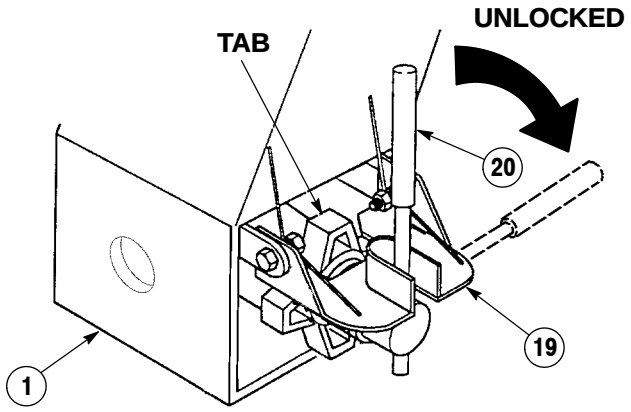
If pin is in stowed position, perform Steps (17) and (18).

(17) Remove lock pin (17) and pin (18) from stow position on lifting frame (1).

(18) Install pin (18) and lock pin (17) in lifting frame (1) and slide arm (12) in upper hole.

(19) Repeat Steps (13) through (18) for left side.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



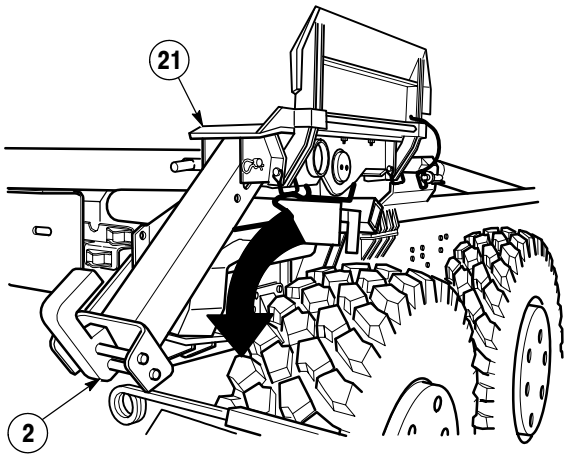
NOTE

- There are two lifting frame lower container locks. Right side shown.
- Ensure lifting frame lower container lock handle is positioned in slot on handle lock plate.
- Ensure tab on handnut faces up.

(20) Raise handle lock plate (19) and rotate lower container lock handle (20) towards center of lifting frame (1) to unlocked position.

(21) Release handle lock plate (19) on lifting frame (1).

(22) Repeat Steps (20) and (21) for left side.



CAUTION

Ensure sliders are clear of debris and surfaces are properly greased or damage to equipment may result.

NOTE

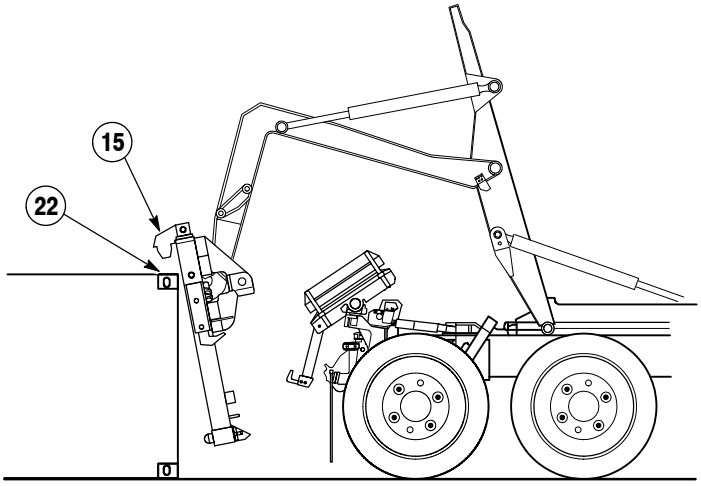
There are two rear sliders and container locks. Right side shown.

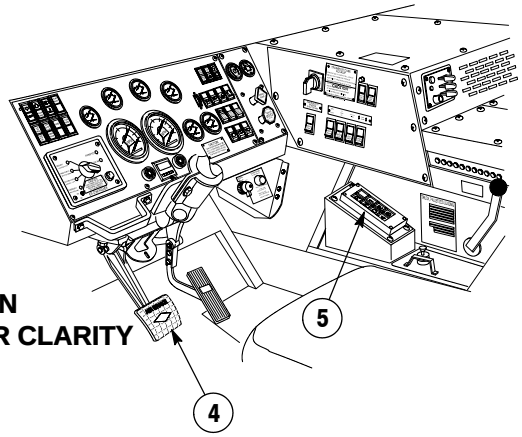
(23) Rotate slider (21) so rear of slider faces down.

(24) Ensure rear container lock (2) is in ready mode or down position (Para 2-32).

(25) Repeat Steps (23) and (24) for left side.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

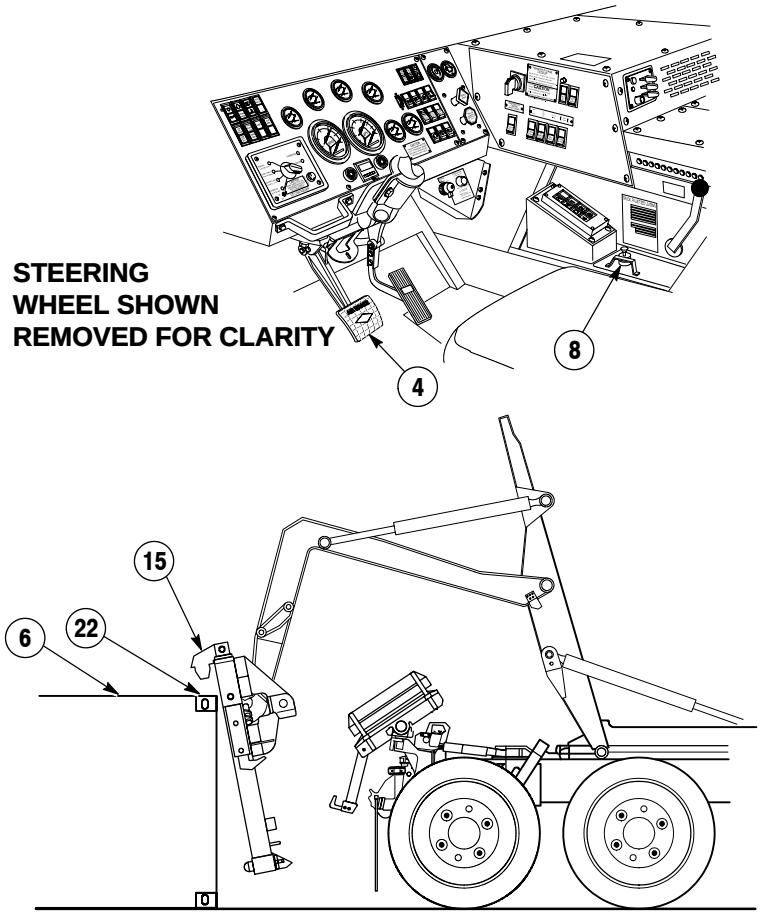




(26) Start engine (Para 2-15).

(27) Position slide arm 6 foot hooks (15) just above and in front of container upper corner castings (22).

(28) Apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).



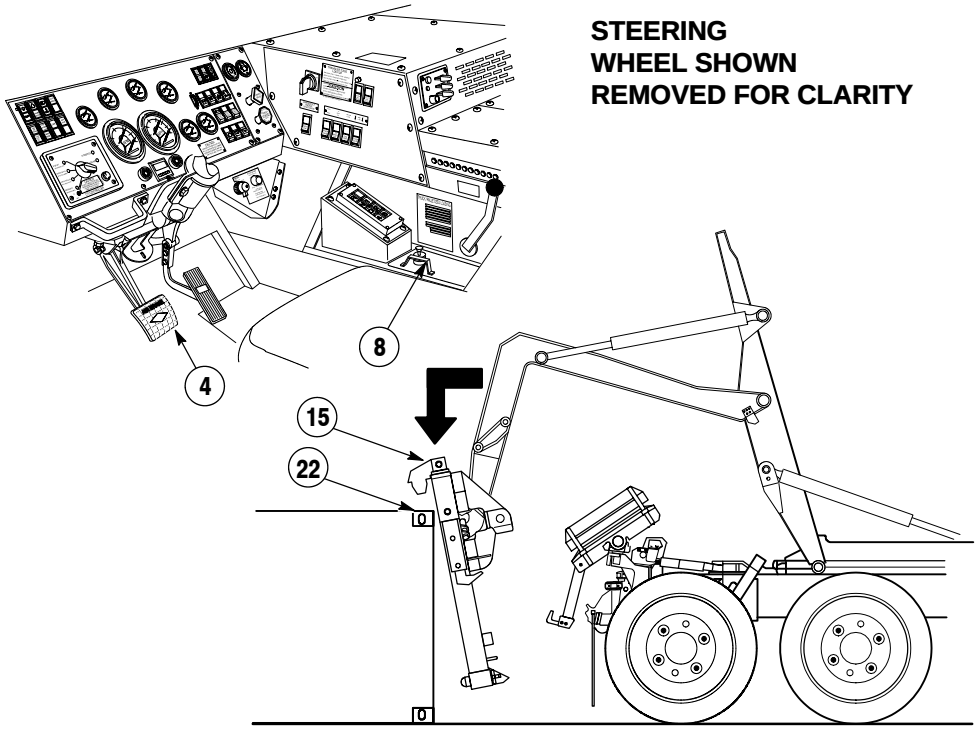
WARNING

Do not allow lifting frame to contact the ground when slide arm 6 foot hooks are not engaged with container upper corner castings. Failure to comply may result in damage to equipment and injury or death to personnel.

(29) Release service brake pedal (4) and slowly back up to approximately 12 in. (30 cm) from front of container (6).

(30) Apply service brake pedal (4), move joystick (8) to LOAD and raise lifting frame until slide arm 6 foot hooks (15) are above container upper front corner castings (22).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



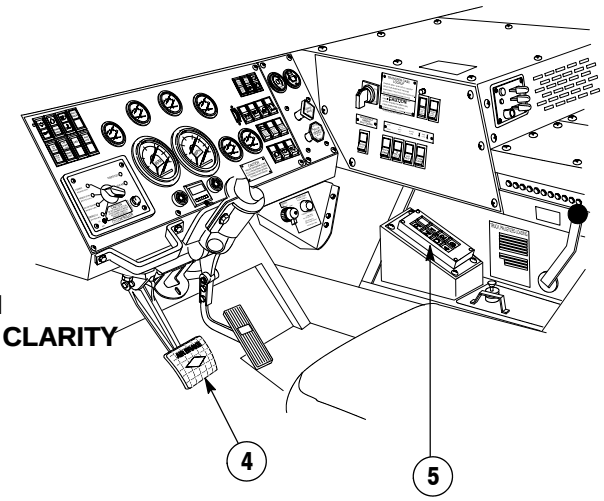
CAUTION

Ensure slide arm 6 foot hooks are fully engaged with container upper corner castings. Failure to comply may result in damage to equipment.

NOTE

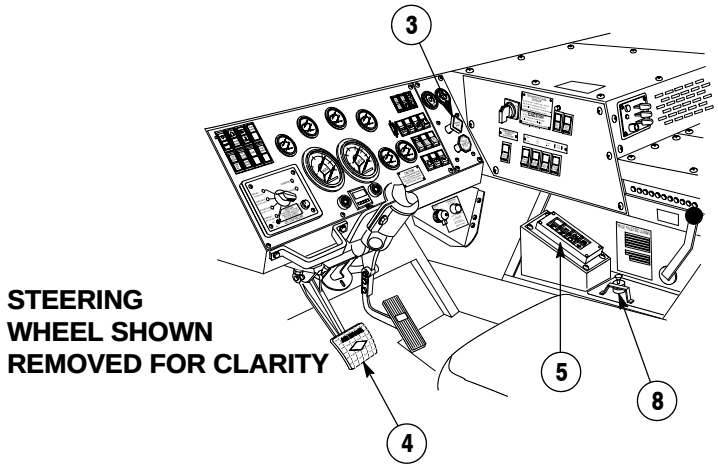
- To get slide arm 6 foot hooks to properly seat it may be necessary to drive truck forward slightly.
- When container is on side slope, it may be difficult to get both upper hooks properly seated. Lifting frame hangs level. To get lifting frame to hang closer to same angle as container, it may be necessary to temporarily remove one rear container lock from slider and stow on downhill side of lifting frame.

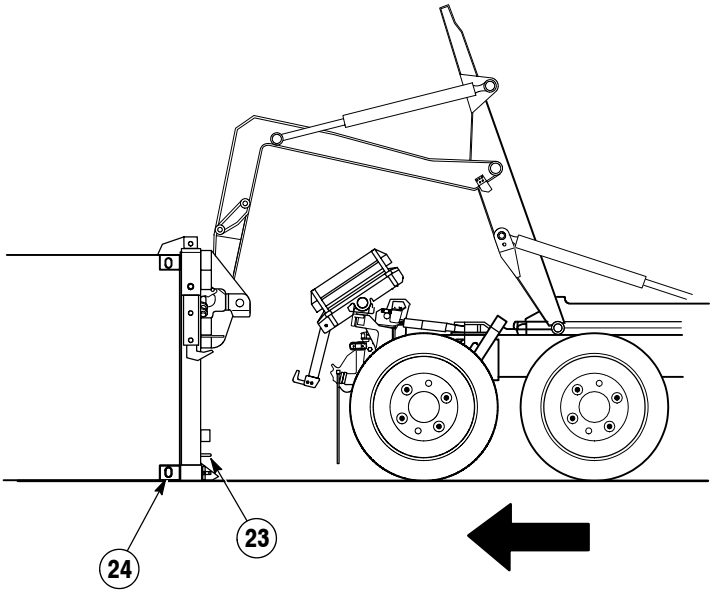
(31) Release service brake pedal (4) and moving joystick (8) to UNLOAD, lower slide arm 6 foot hooks (15) into container upper front corner castings (22).



(32) Apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).

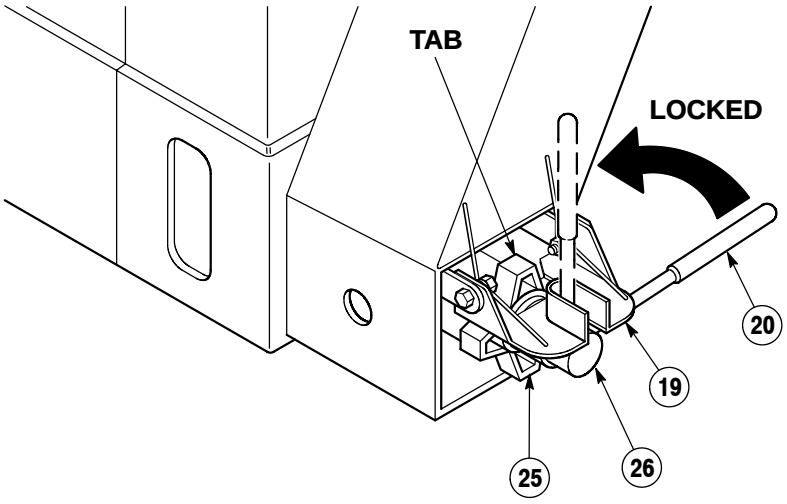
2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





(33) Continue backing up truck until lower container locks (23) are seated in container lower front corner castings (24). Apply service brake pedal (4) and release joystick (8).

(34) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.



CAUTION

Ensure lower container locks are fully engaged with container lower front corner castings. Failure to comply may result in damage to equipment.

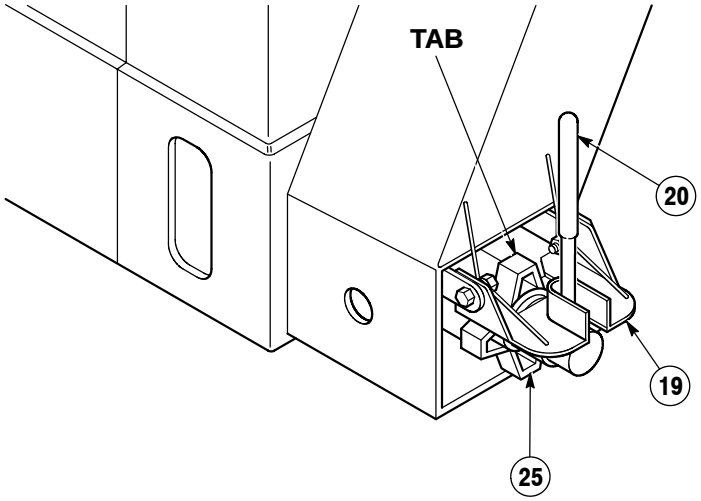
NOTE

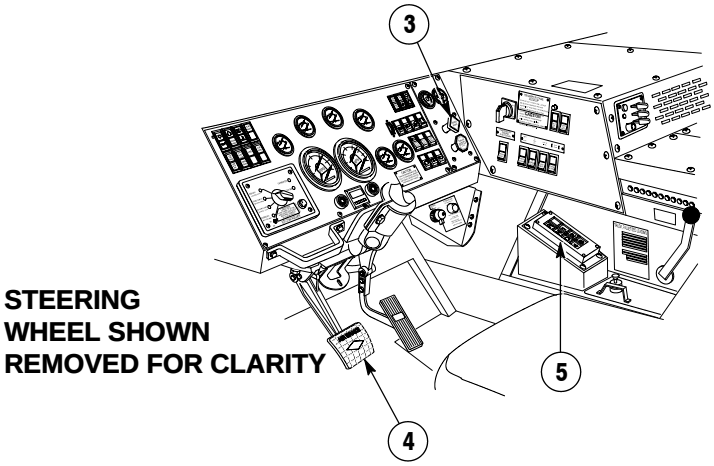
- To get container lock handle to rotate, it may be necessary to loosen handnut.
- There are two lower container locks. Right side shown.
- After tightening handnut, it may be necessary to loosen handnut slightly to align tab with handle lock plate.
- Ensure lower container lock handle is secured in slot on handle lock plate.

(35) Hold handle lock plate (19) up and rotate lower container lock handle (20) up in the locked position.

(36) Turn handnut (25) clockwise and tighten stem (26).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





NOTE

Ensure tab on handnut faces up.

(37) Lower handle lock plate (19) over lower container lock handle (20) and handnut (25) tab.

(38) Repeat Steps (35) through (37) for left side.

(39) Set the transmission range selector (5) in Neutral (N), push in parking brake knob (3) to release parking brakes and release service brake pedal (4).

WARNING

When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

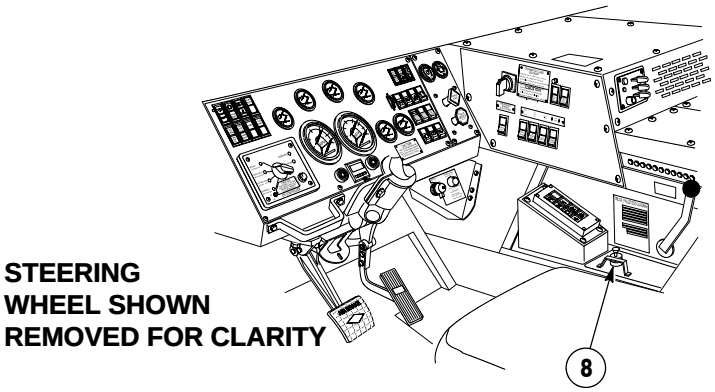
CAUTION

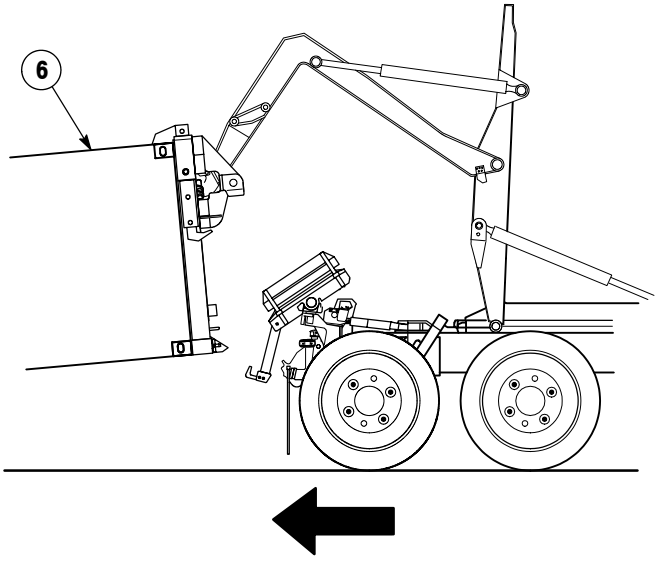
- If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should notify supervisor if it appears payload is unevenly distributed in container or if container load exceeds 35,000 lbs. (15,890 kg). If any of these conditions exist, payload must be redistributed or reduced or damage to equipment may result.
- Load must be evenly distributed in the container. Uneven load distribution may cause the LHS overload indicator to give false signals and cause the LHS to operate incorrectly. Damage to equipment may result.
- If LHS overload lamp illuminates and normal operation has stopped, return load to original position and notify supervisor to have payload redistributed or weight reduced. Failure to comply may result in damage to equipment.
- Ensure parking brake is not applied before starting load sequence or damage to equipment may occur.

NOTE

- The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.
- If container is extremely light or empty, it may be necessary to place transmission range selector to Reverse (R) and allow truck to roll under container.
- If container is not centered, and transit locks can not be installed and pinned, repeat Steps (39) through (47) to reposition container.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





(40) Move joystick (8) to LOAD, allowing truck to be pulled under container (6).

WARNING

Ensure that container has contacted rear sliders correctly and is between guides. Failure to comply may result in serious injury or death to personnel and damage to equipment.

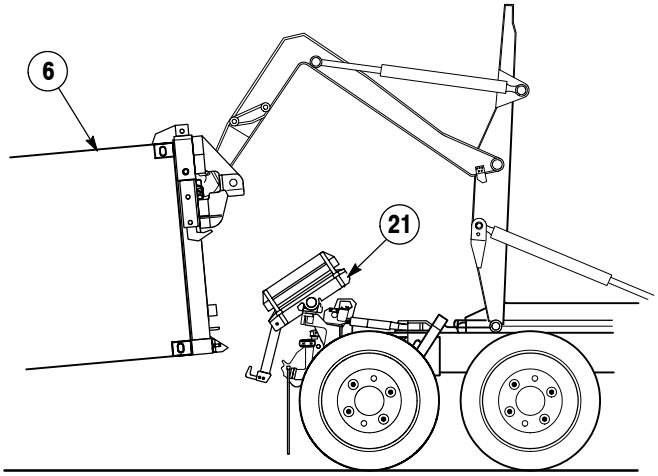
CAUTION

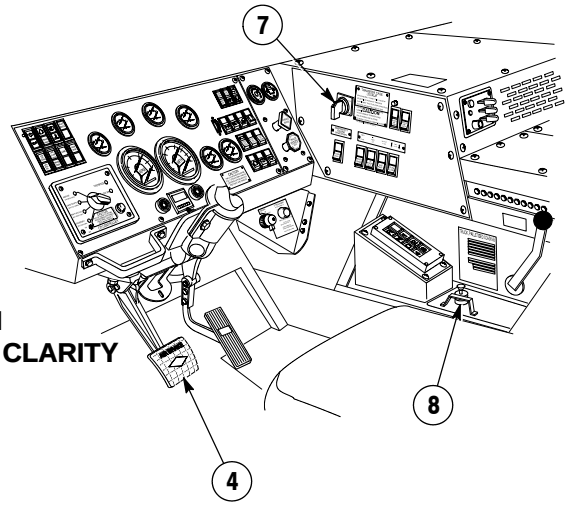
Reduce engine speed to idle before container contacts rear sliders or damage to equipment may result.

NOTE

- LHS overload lamp may illuminate when lifting container from unusual conditions.
- As load is lifted, truck will be pulled under container. Some steering wheel adjustment may have to be made to ensure that container contacts rear sliders correctly and is between guides.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





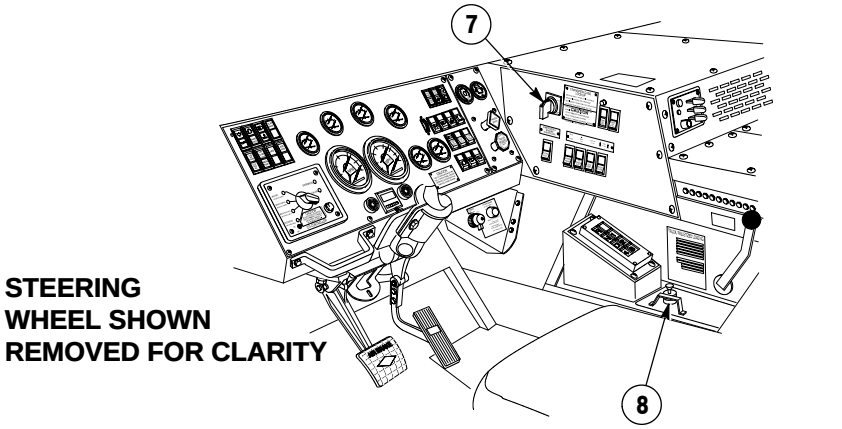
STEERING WHEEL SHOWN REMOVED FOR CLARITY

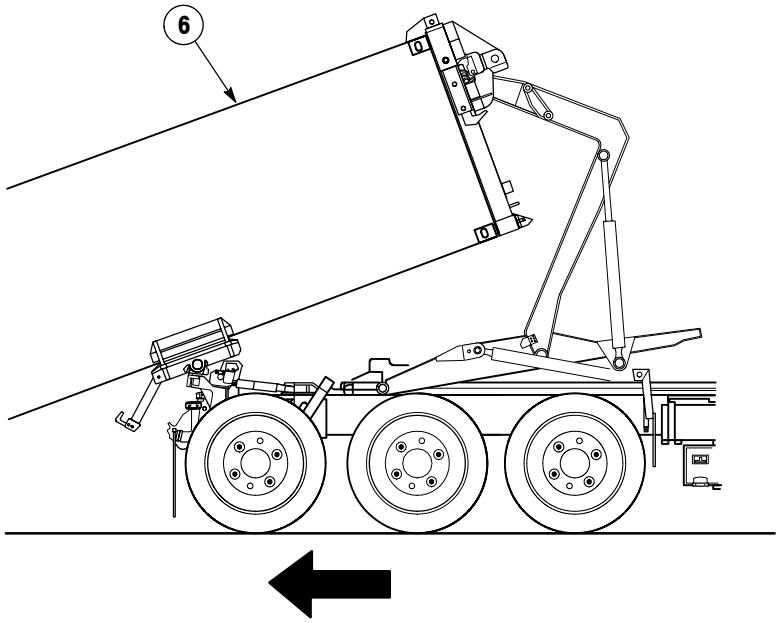
(41) As container (6) contacts rear sliders (21), reduce engine speed to idle and apply service brake pedal (4).

NOTE

If container is being loaded in soft soil conditions, perform Steps (42) through (44).

(42) Release joystick (8). Set hydraulic selector switch (7) to MAN H.A.

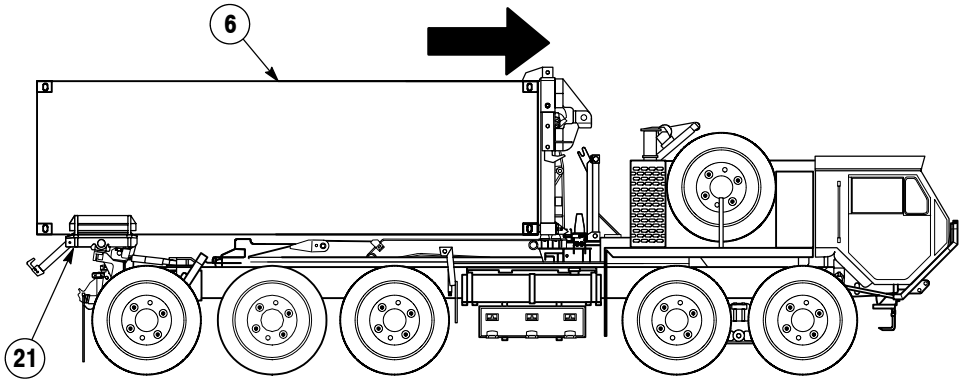


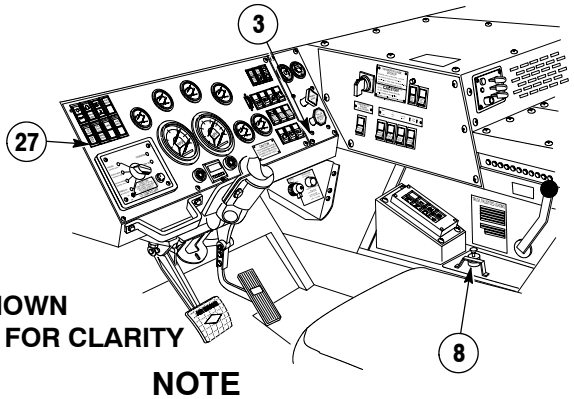


(43) Move joystick (8) to LOAD until container (6) is approximately 2 ft. (0.61 m) off the ground. Release joystick.

(44) Set hydraulic selector switch (7) to AUTO. Resume normal AUTO operations.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

Engine speed may be increased and decreased to ease loading.

(45) After container (6) contacts rear sliders (21), increase engine speed to approximately 1500 rpm until container is almost loaded. Reduce engine speed to idle.

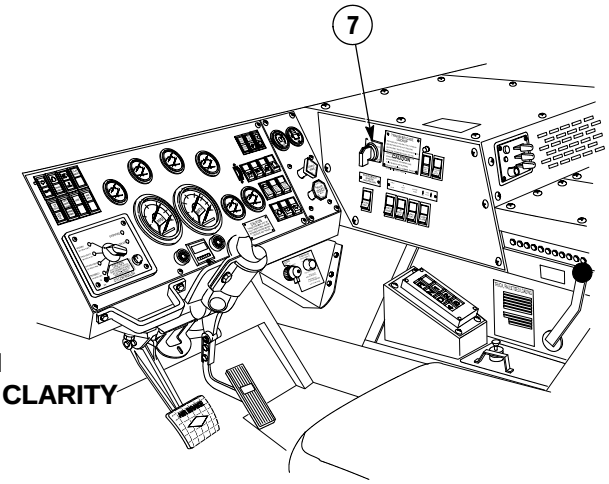
CAUTION

After loading operations using CHU kit and container and the LHS NO TRANSIT indicator goes off, operator must release the joystick from the LOAD position. Failure to release the joystick may cause LHS OVER LOAD indicator to illuminate and hydraulic cylinders to remain active, forcing a temporary bow in the LHS frame, resulting in contact between LHS and container.

(46) Continue loading until container (6) is fully loaded and LHS NO TRANS lamp (27) goes out.

(47) Release joystick (8).

(48) Pull out parking brake knob (3) and apply parking brake.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

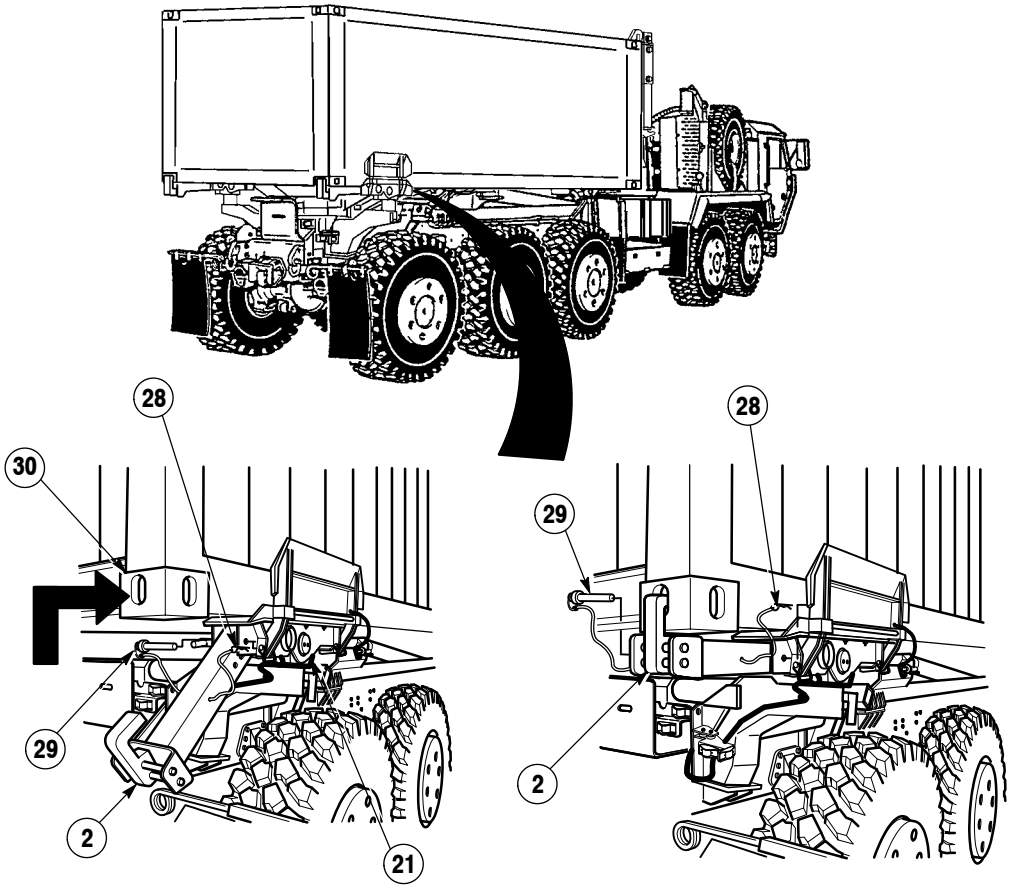
CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.

(49) Turn hydraulic selector switch (7) to OFF.

(50) Shut off engine (Para 2-23).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

- There are two rear container locks. Right side shown.
- If container is not centered and transit locks cannot be installed and pinned, repeat Steps (40) through (50) to reposition container.

(51) Support rear container lock (2) and remove lock pin (28) and pin (29).

(52) Rotate rear container lock (2) up and position into container lower rear corner casting (30).

(53) Install pin (29) and lock pin (28) in rear container lock (2) and slider (21).

(54) Perform Step (51) through (53) for left side.

b. Unloading

WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a container. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS, lifting frame, and container or serious injury or death may result.

CAUTION

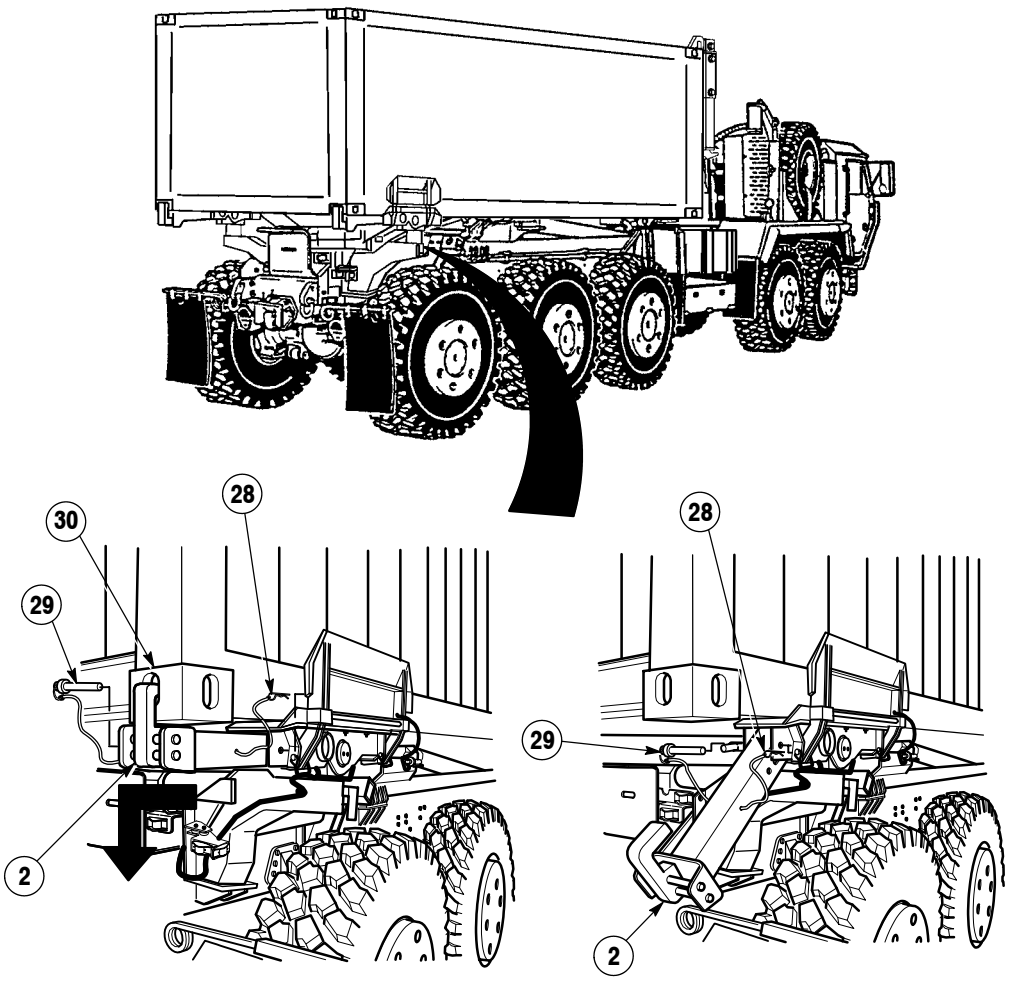
- Check that ground conditions where container will be placed can support the container weight or damage to the container, lifting frame or LHS may result.
- Use extreme caution when loading/unloading container with side doors. Container must remain centered during loading/ unloading or flanges on side may be damaged and/or door hinges may make hard contact with guides.

NOTE

For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a**.)** “LHS Controls and Indicators”, (Para 2-29b**.)** “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-loading a Flatrack in Auto Mode”.

(1) Check area for operating room at front and rear of truck. Check overhead clearance and ground conditions.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



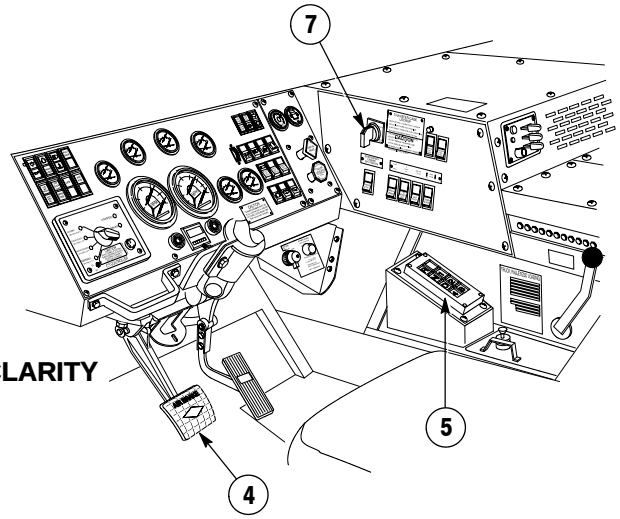
NOTE

There are two rear container locks. Right side shown.

(2) Remove lock pin (28), pin (29) and rear container lock (2) from lower rear corner casting (30).

(3) Rotate rear container lock (2) in down position and install pin (29) and lock pin (28).

(4) Perform Steps (2) and (3) for left side.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

(5) Start engine (Para 2-15).

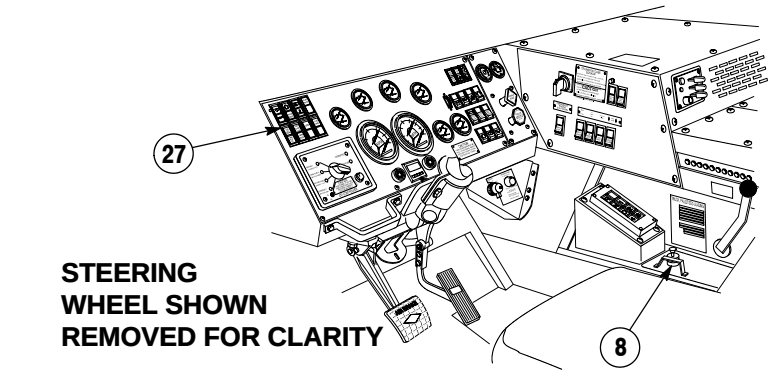
(6) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

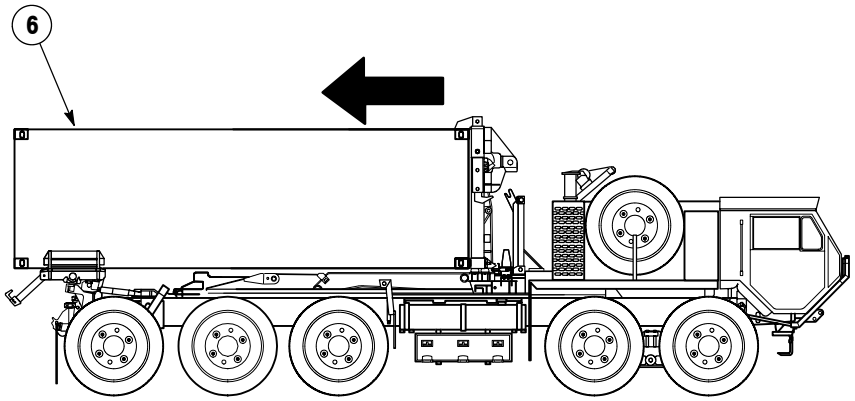
CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(7) Turn hydraulic selector switch (7) to AUTO.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





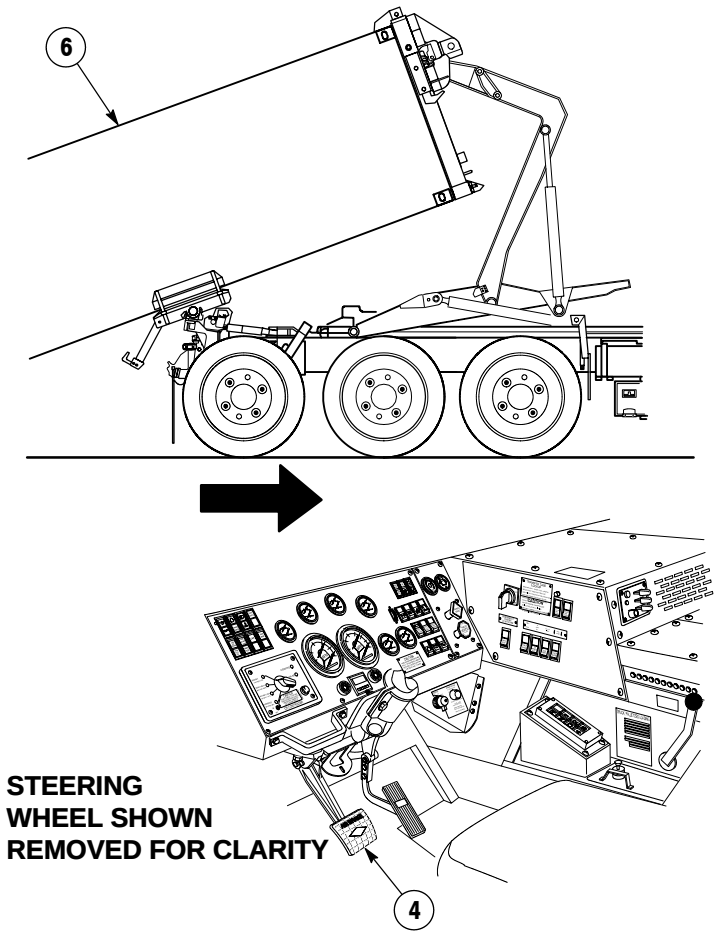
WARNING

When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

NOTE

LHS will not operate and unload if rear container locks are engaged.

(8) Move joystick (8) to UNLOAD. Container (6) will start to move rearward. LHS NO TRANS lamp (27) will illuminate. Maintain engine speed at idle until front of container raises approximately 12 in. (30 cm).



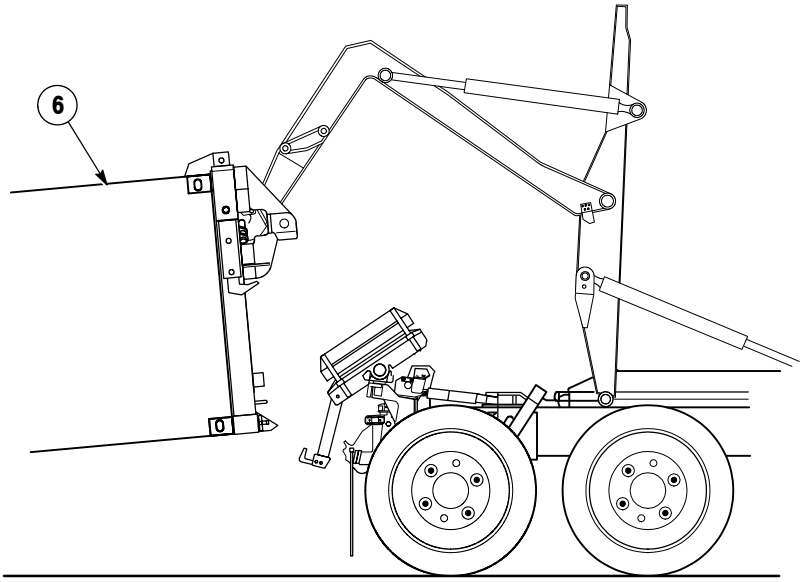
NOTE

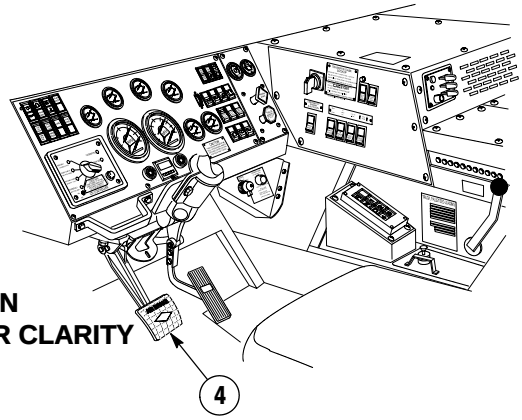
The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

(9) Continue to unload container (6) until back edge of container touches ground.

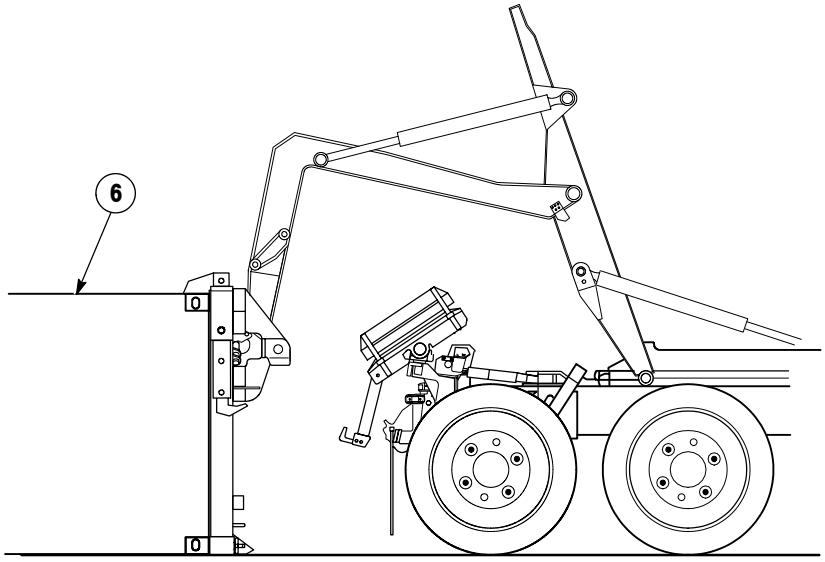
(10) Release service brake pedal (4) and allow container (6) to push truck forward from under container.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





(11) As front of container (6) approaches within approximately 8 in. (20.3 cm) of ground, decrease engine speed to idle and apply service brake pedal (4).



CAUTION

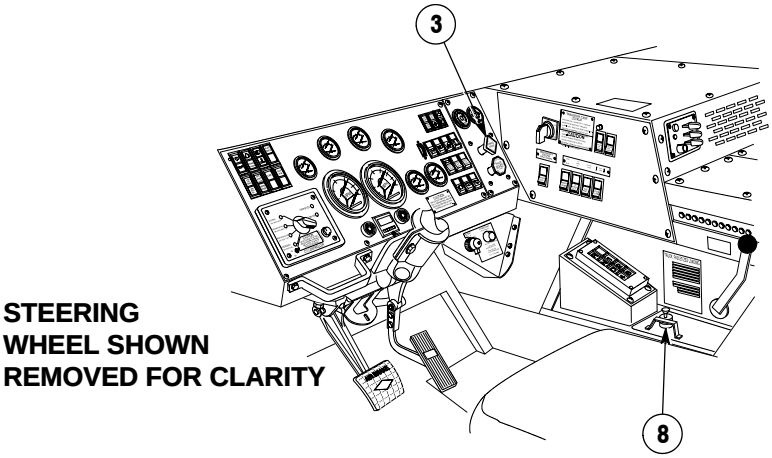
Once truck's rear suspension has been relieved of container load, do not continue in UNLOAD position as possibility of jacking up the rear of truck with hook arm may occur and damage to equipment may result.

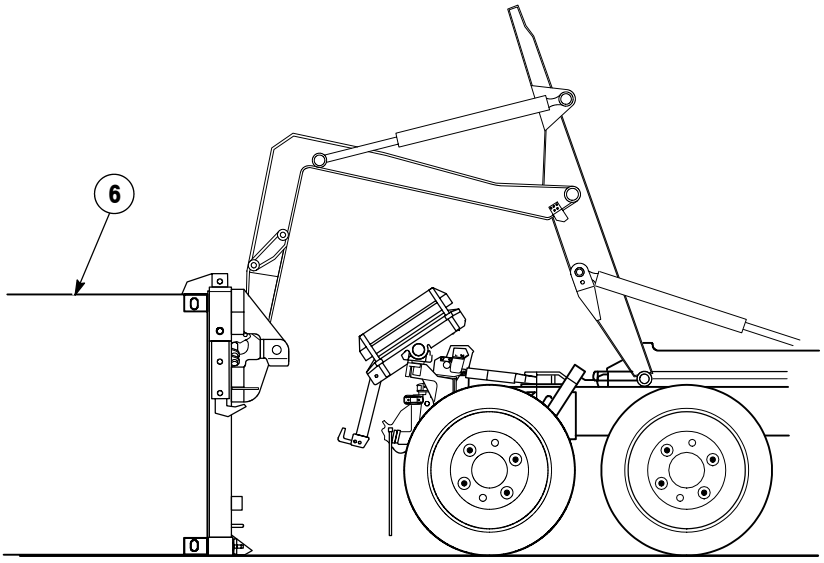
NOTE

If container is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) and allow truck to move out from under container.

(12) Continue unloading until bottom of container (6) is on ground and rear suspension is unloaded.

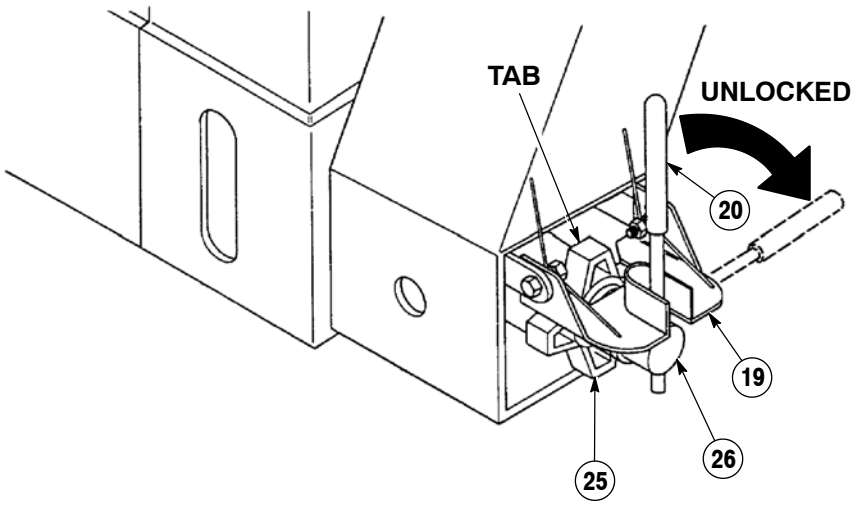
2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





(13) Release joystick (8) when container (6) is resting on ground.

(14) Pull out parking brake knob (3) to apply parking brakes.



WARNING

Ensure that all tension has been relieved between LHS hook and lifting frame prior to unlocking lifting frame lower container locks. Stay clear of lifting frame when unlocking lifting frame lower container locks as lifting frame may separate from container unexpectedly. Failure to comply may result in serious injury or death to personnel.

NOTE

There are two lifting frame lower container locks. Right side shown.

(15) Raise handle lock plate (19) and turn handnut (25) counterclockwise and loosen stem (26).

NOTE

Ensure tab on handnut faces up.

(16) Rotate lower container lock handle (20) towards center of truck to unlocked position.

CAUTION

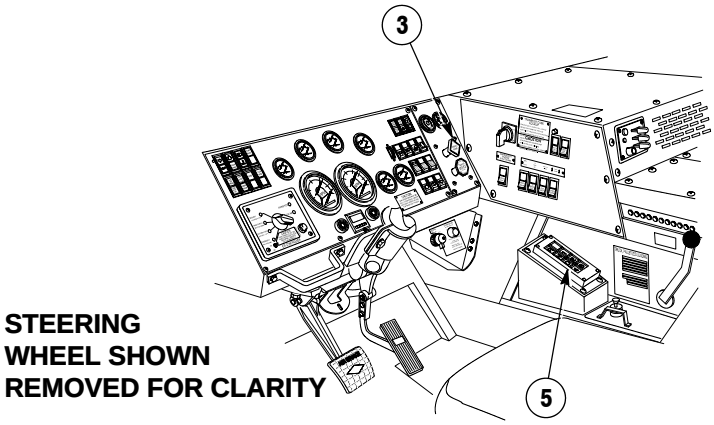
Handnut must be tightened clockwise to tighten stem. Failure to tighten stem may cause damage to equipment during next container loading procedure.

(17) Turn handnut (25) clockwise and tighten stem (26).

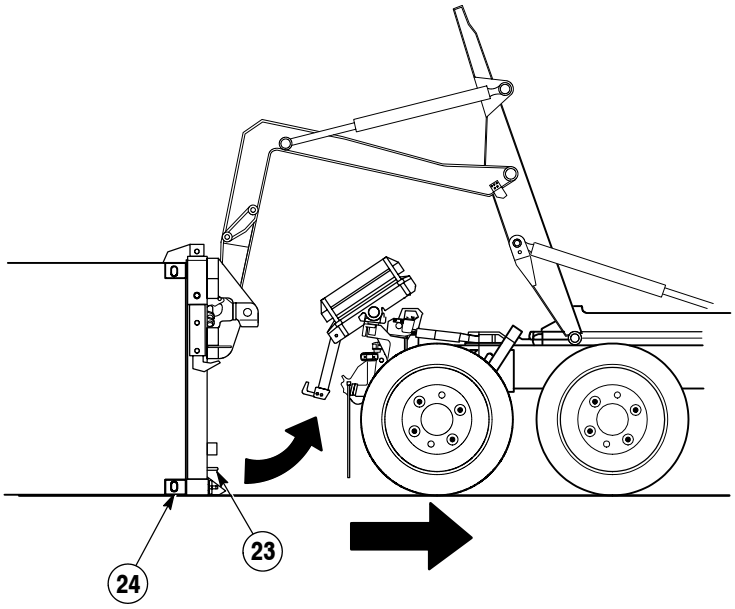
(18) Release handle lock plate (19) over container lock handle (20) and handnut (25) tab.

(19) Repeat Steps (15) through (18) for left side.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

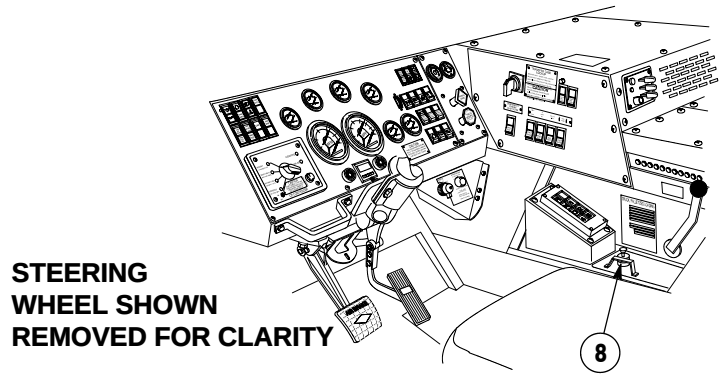


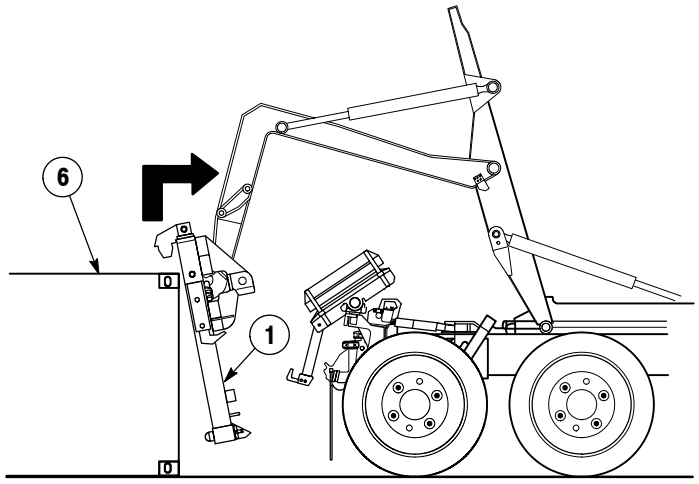
STEERING WHEEL SHOWN REMOVED FOR CLARITY



(20) Push in parking brake knob (3) and release parking brakes. Set transmission range selector (5) to Drive (D).

(21) Move truck forward until lower container locks (23) disengage from lower front corner castings (24) approximately 4 to 6 in. (10 to 15 cm).





CAUTION

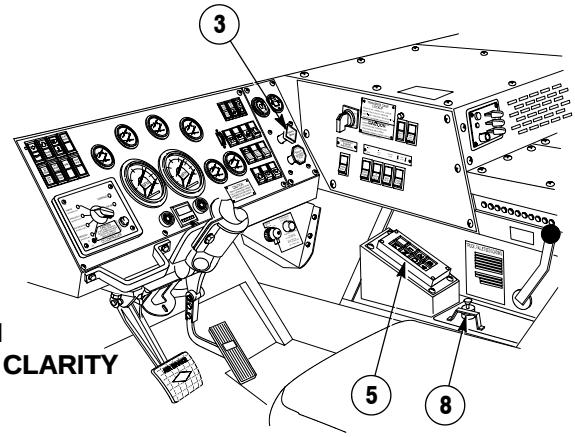
Ensure that the slide arm 6 foot hooks are completely disengaged and do not hang up in container upper corner castings when retracting LHS. Failure to comply may result in damage to the slide arm 6 foot hooks and/or container.

NOTE

It may be necessary to move the truck forward or backward slightly to get the slide arm 6 foot hooks to disengage.

(22) Move joystick (8) to LOAD position until lifting frame (1) is disengaged from container (6).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

(23) Release joystick (8).

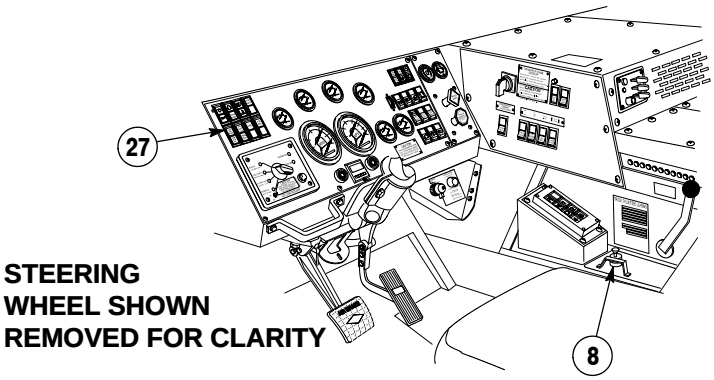
(24) Move truck forward until rear of truck is approximately 9 ft. (2.75 cm) in front of container.

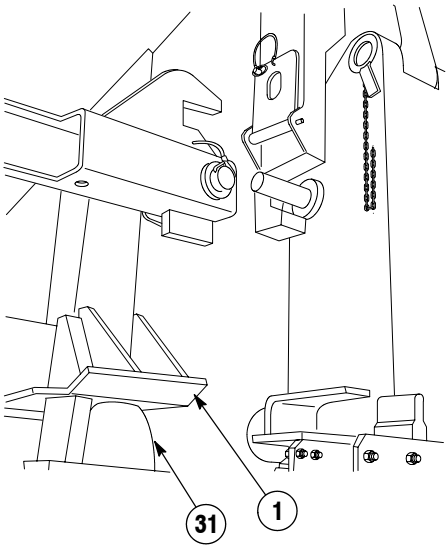
(25) Move joystick (8) to unload position until lifting frame is positioned approximately 12 in. (30 cm) off of the ground.

(26) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.

CAUTION

- On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Switch hydraulic selector to MAN M.F. and retract the mainframe until the lifting frame clears the rear sliders. Return hydraulic selector to AUTO and continue (LOAD) operation. Failure to comply may result in damage to equipment.
- Never drive with LHS NO TRANS lamp illuminated. An illuminated lamp means that the LHS is not fully stowed. Failure to comply may result in damage to equipment.





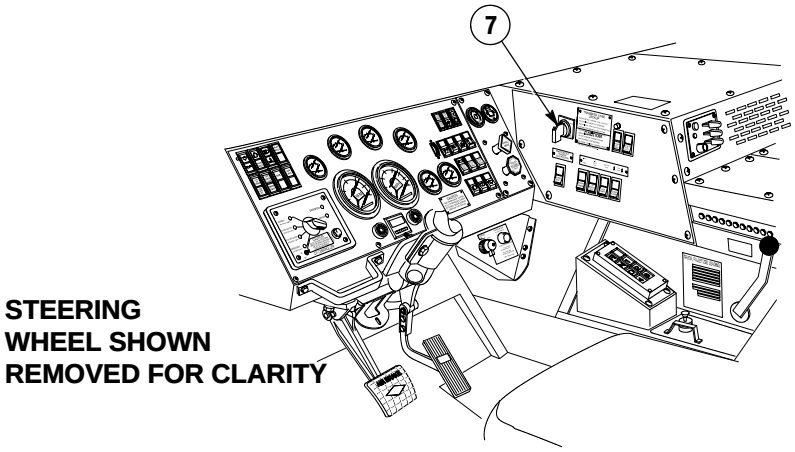
NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

(27) Move joystick (8) to LOAD position until LHS is fully retracted and lifting frame (1) is positioned on bumper supports (31). LHS NO TRANS lamp (27) will go out indicating LHS is in transport position.

(28) Release joystick (8).

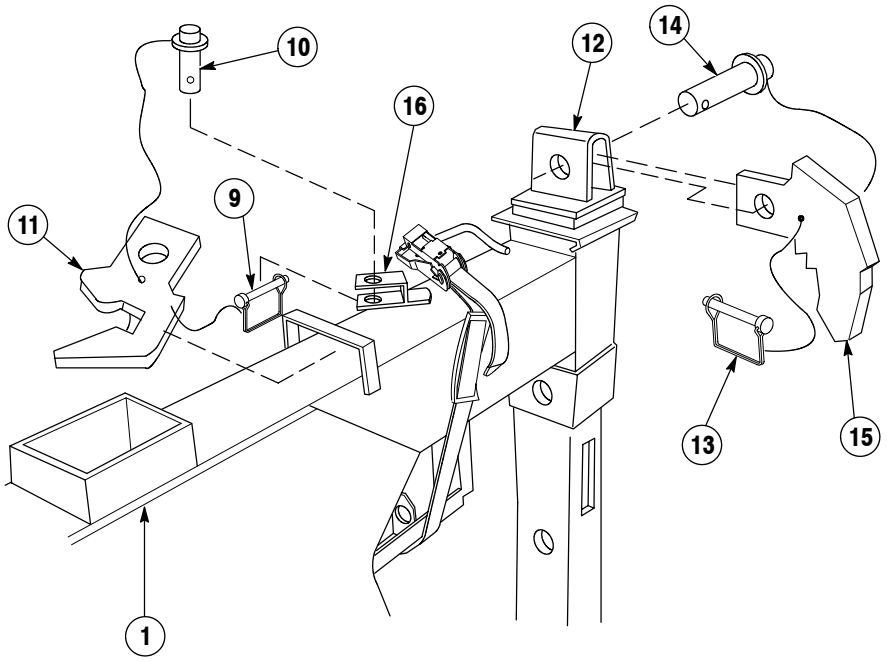
2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.

(29) Turn hydraulic selector switch (7) to OFF.



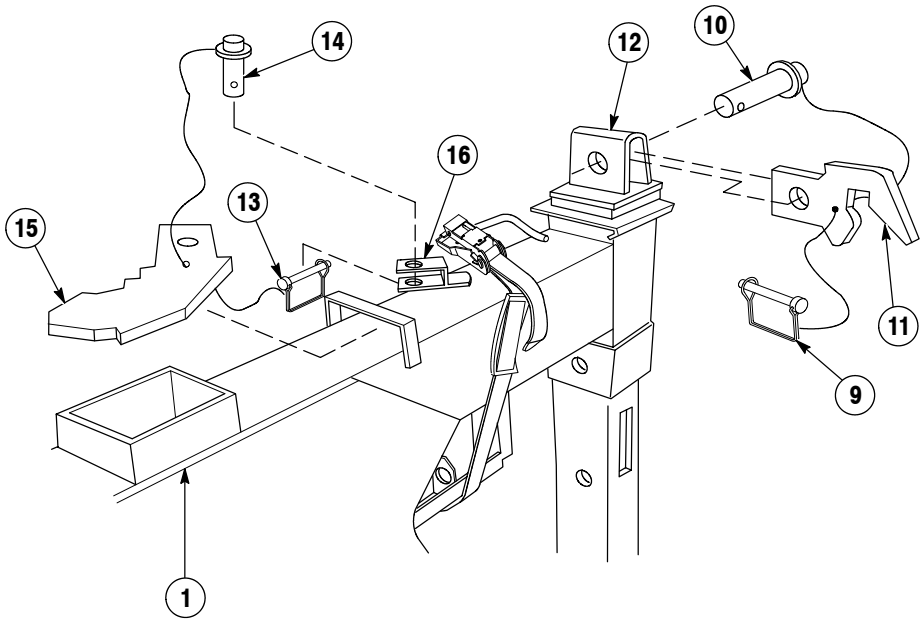
NOTE

- Perform Steps (30) through (34) if remainder of CHU operation does not require use of 6 foot hooks.
- There are two slide arms. Right side shown.

(30) Remove lock pin (13), pin (14) and 6 foot hook (15) from slide arm (12).

(31) Remove lock pin (9), pin (10) and standard hook (11) from stowage bracket (16) on lifting frame (1).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

Ensure standard hooks face down when installed.

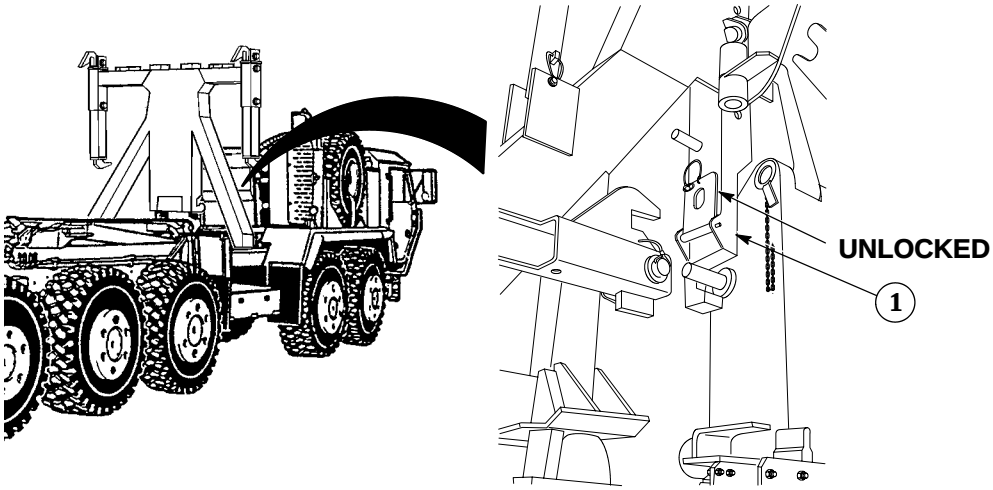
(32) Install standard hook (11), pin (10) and lock pin (9) on slide arm (12).

(33) Install 6 foot hook (15), pin (14) and lock pin (13) in stowage bracket (16) on lifting frame (1).

(34) Repeat Steps (30) through (33) for left side.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF).

a. Loading



WARNING

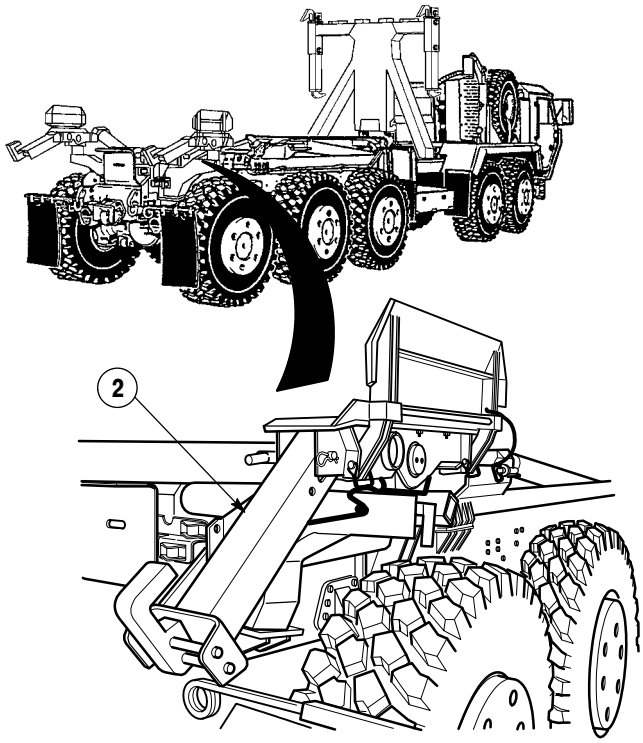
Lifting frame weighs 1600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

CAUTION

Ensure lifting frame is in the unlocked position before attempting to load a container to truck. Failure to comply will result in damage to equipment.

(1) Ensure lifting frame (1) is in container mode (Para 2-32) and unlocked (Para 2-37).

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

Ensure truck is in container mode before attempting to load a container to truck. Failure to comply will result in damage to equipment.

(2) Ensure truck is in container mode, refer to (Para 2-32).

(3) Ensure rear container lock (2) is in ready mode, refer to (Para 2-32).

WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.

- Maximum permissible gross container weight is 35,000 lbs. (15,890 kg).

- Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.

- Do not stand between lifting frame and container. Truck could roll, crushing personnel between them causing serious injury or death.

- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.

CAUTION

- Use extreme caution when loading/unloading container with side doors. Container must remain centered during loading/unloading or flanges on side may be damaged and/or door hinges may make hard contact with guides.

- When operating CHU with non-standard, end-opening, 20 ft. long shipping containers, operator needs to take extra care to ensure that sliders and guides contact container properly, container slides on sliders properly, and container loads centered on truck. Failure to comply may result in container getting hung up or making hard contact with sliders and guides, causing damage to CHU or container.

NOTE

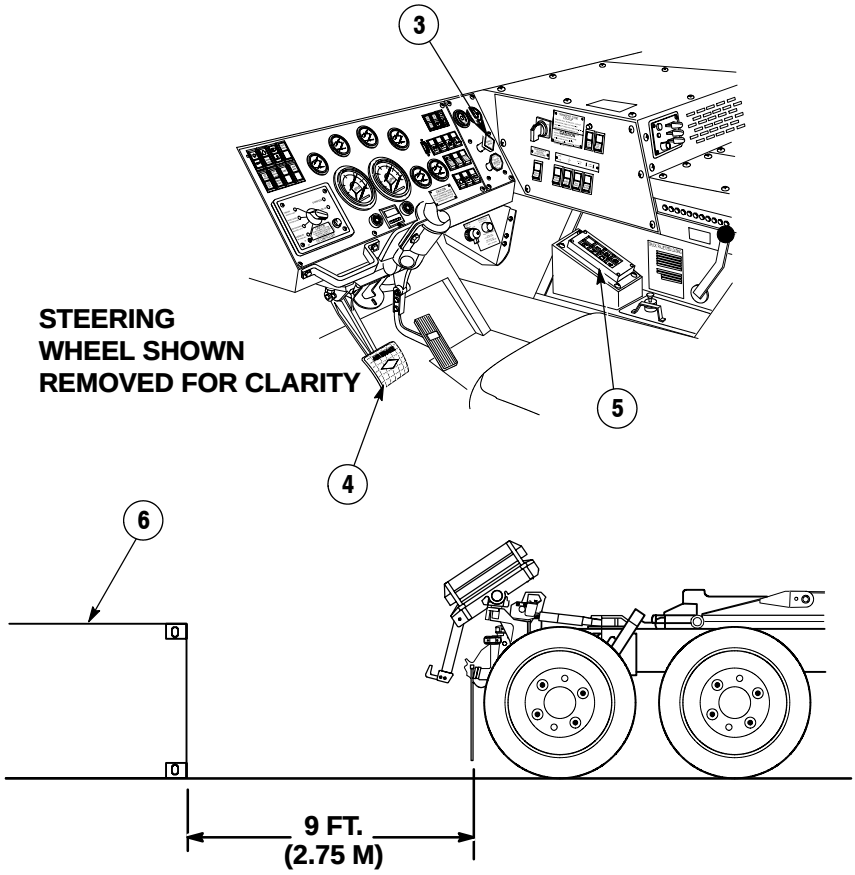
- For detailed instructions on how to operate the LHS on the truck, refer (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-loading a Flatrack in Auto Mode”**.**

- Rear mud flaps may be pinned up to provide better visibility of lifting frame lower container locks.

- Multiple connected containers can not be used with CHU. This includes Six CONS and Quad CONS.

- It is recommended that two personnel be used to ease operation (Driver and Spotter to position lifting frame).

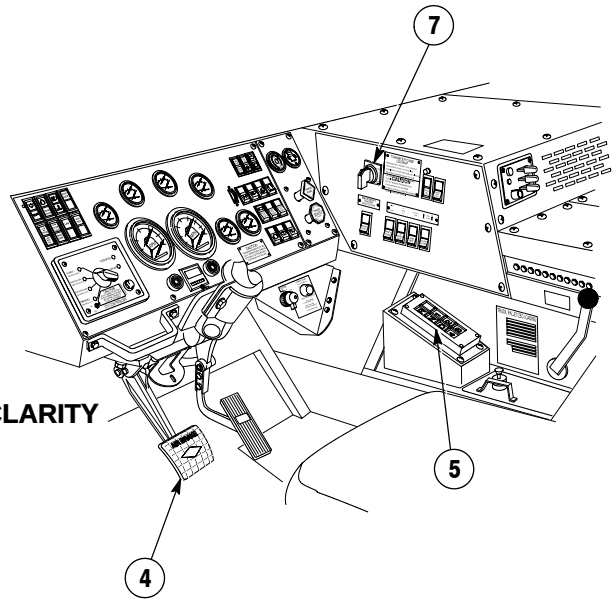
2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



(4) Start engine (Para 2-15).

(5) Push in parking brake knob (3), apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).

(6) Release service brake pedal (4) and position rear of truck within 9 ft. (2.75 m) of front of container (6), aligning centerline of truck within 2 in. (5 cm) of container centerline.



STEERING WHEEL SHOWN REMOVED FOR CLARITY

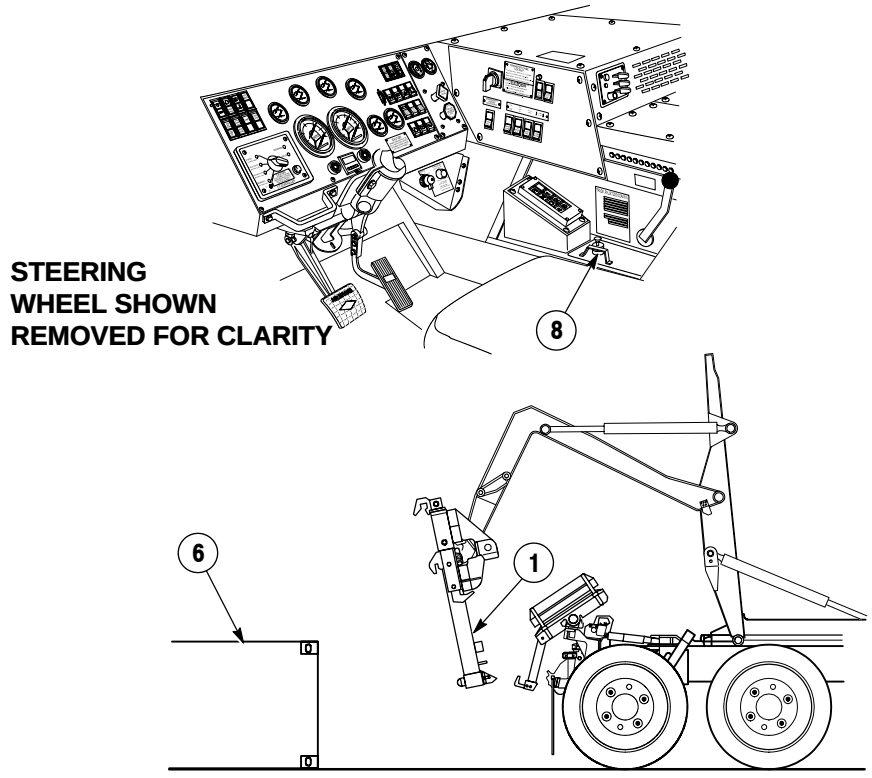
(7) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(8) Turn hydraulic selector switch (7) to AUTO.

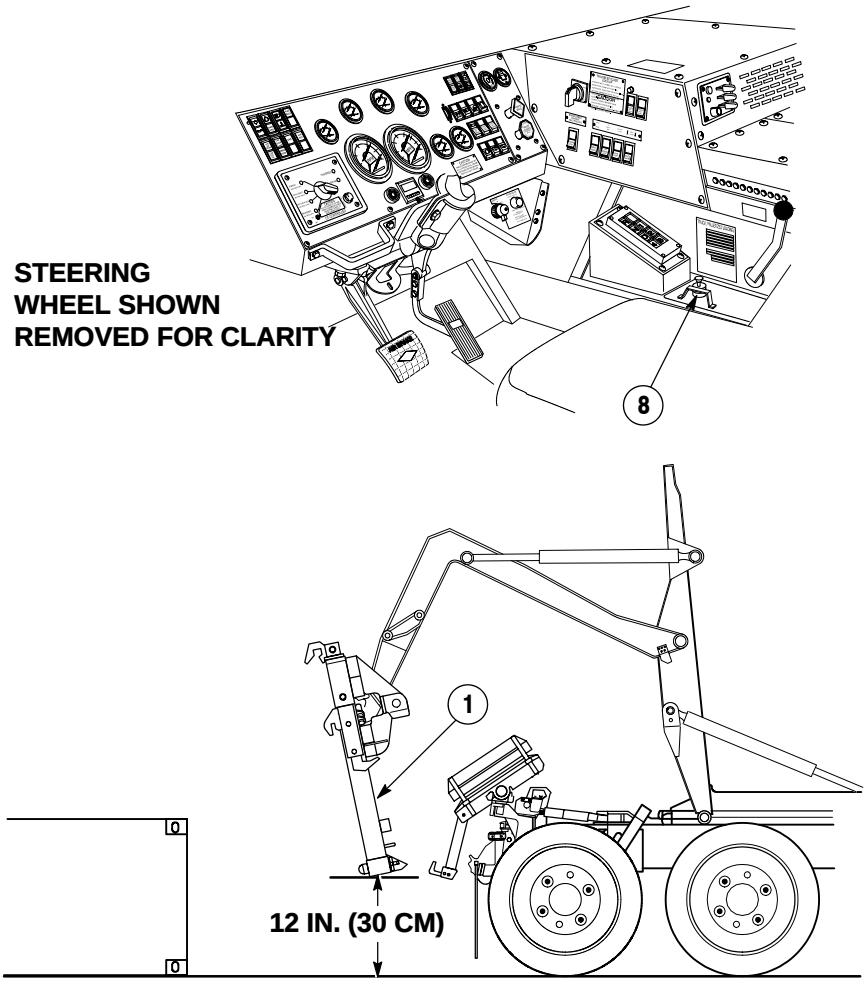
2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Return hydraulic selector to AUTO and continue (UNLOAD) operation. Repeat as required. Failure to comply may result in damage to equipment.

(9) Move joystick (8) to UNLOAD position until lifting frame (1) is positioned in front of container (6).

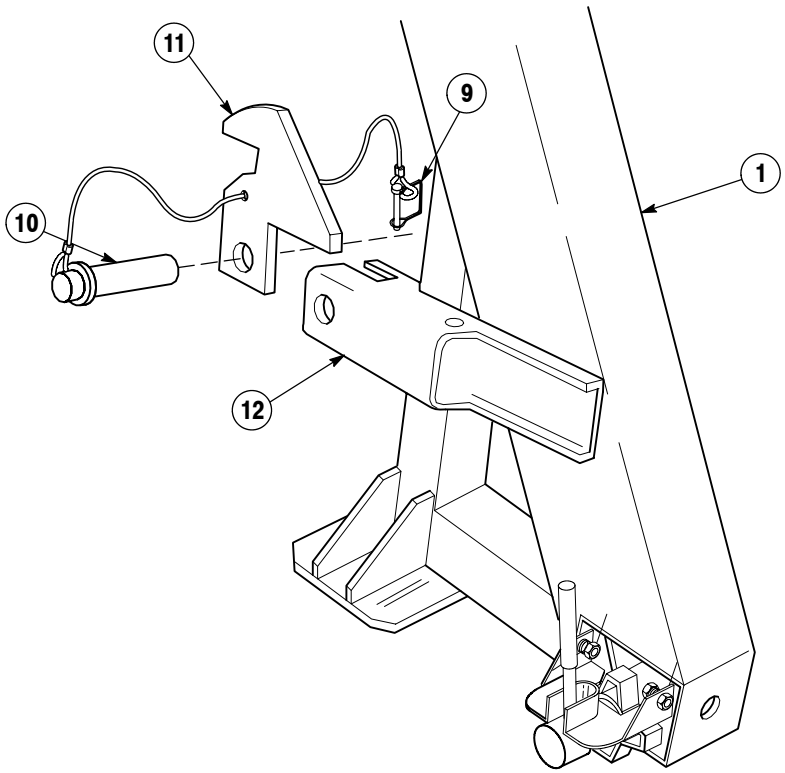


(10) Operate LHS in AUTO mode until lifting frame (1) is approximately 12 in. (30 cm) off of ground.

(11) Release joystick (8).

(12) Shut off engine (Para 2-23).

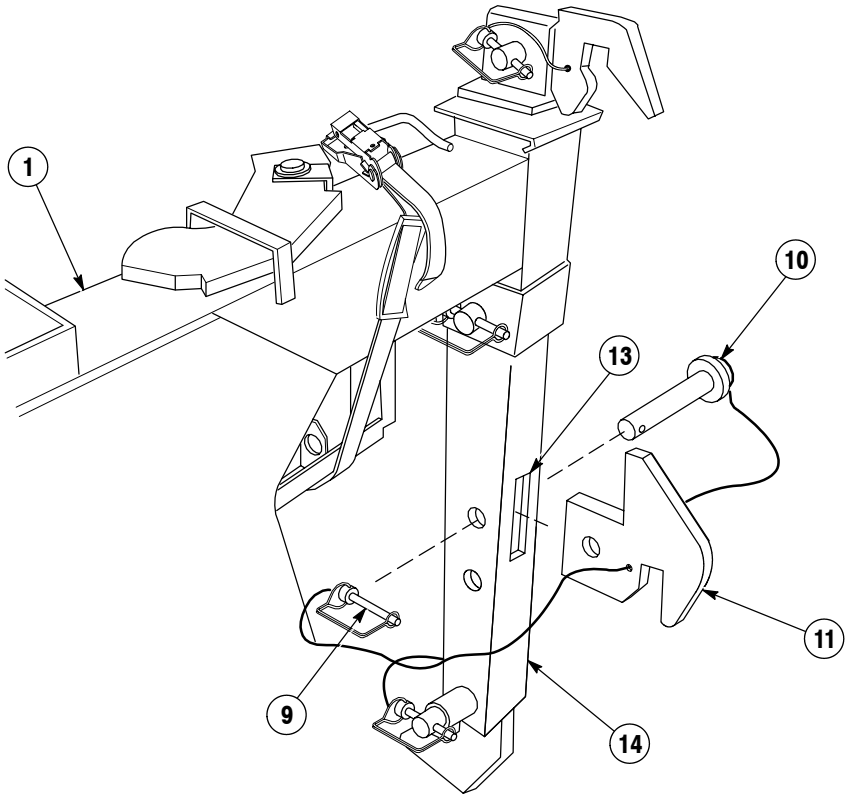
2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

- Refer to the lifting frame data plate for the proper configuration needed for the height of container being loaded.
- There are two slide arms. Right side shown.

(13) Remove lock pin (9), pin (10) and half height container front hook (11) from stowage bracket (12) on lifting frame (1).

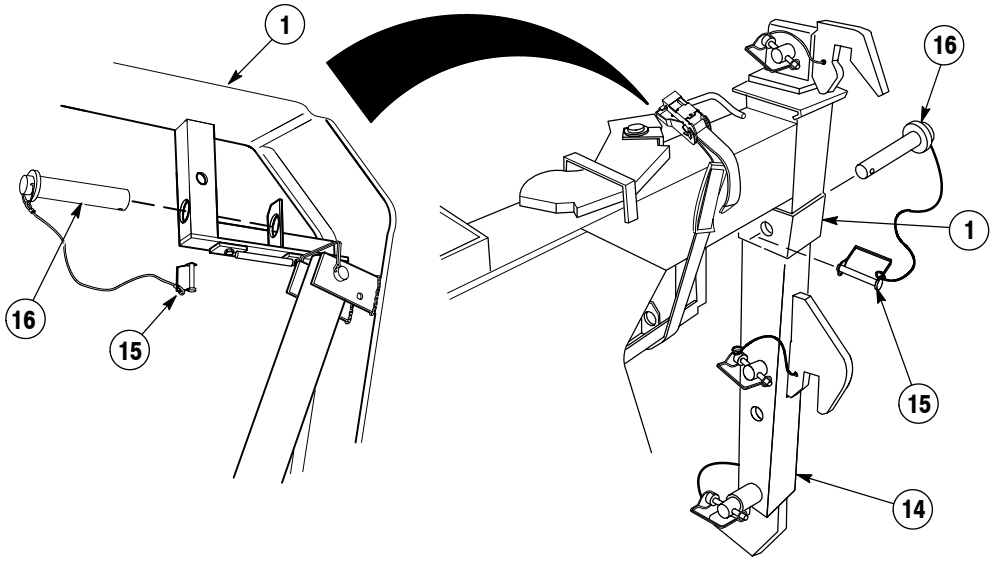


NOTE

Ensure half height container front hooks face down when installed.

(14) Position half height container front hook (11) in slot (13) on slide arm (14) and install pin (10) and lock pin (9).

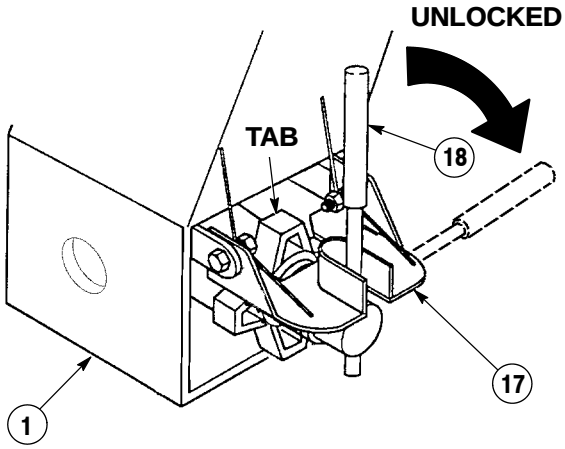
2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



(15) Remove lock pin (15), pin (16) from lifting frame (1) and slide arm (14) upper hole.

(16) Install pin (16) and lock pin (15) in stow position on lifting frame (1).

(17) Repeat Steps (13) through (16) for left side.



NOTE

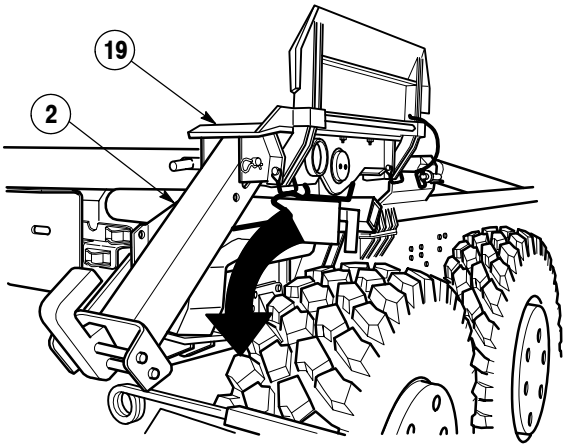
- There are two lifting frame lower container locks and rear sliders. Right side shown.
- Ensure lifting frame lower container lock handle is positioned in slot on handle lock plate.
- Ensure tab on handnut faces up.

(18) Raise handle lock plate (17) and rotate lower container lock handle (18) towards center of lifting frame (1) to unlocked position.

(19) Release handle lock plate (17) on lifting frame (1).

(20) Repeat Steps (18) and (19) for left side.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

Ensure sliders are clear of debris and surfaces are properly greased or damage to equipment may result.

NOTE

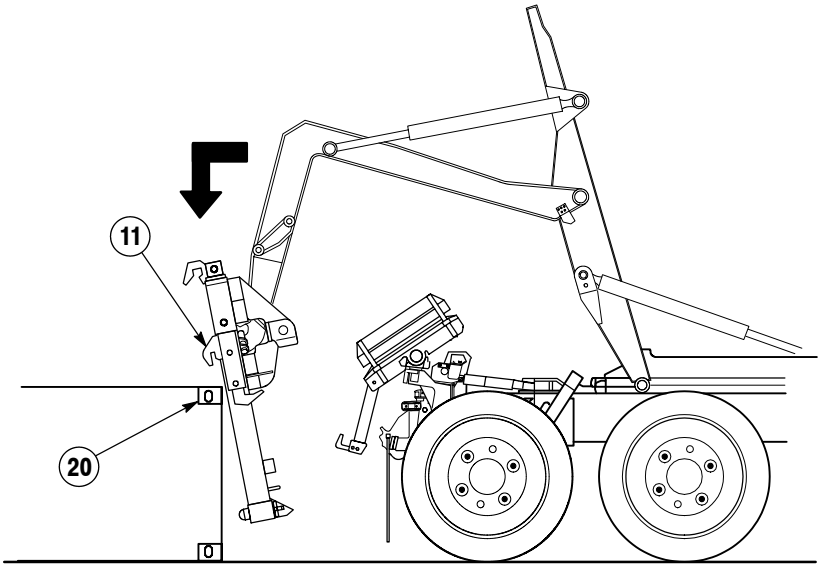
There are two rear sliders and container locks. Right side shown.

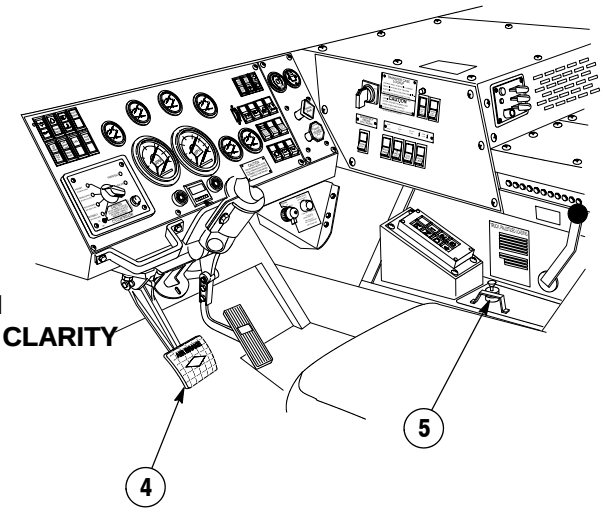
(21) Rotate slider (19) so rear of slider faces down.

(22) Ensure rear container lock (2) is in ready mode or down position (Para 2-32).

(23) Repeat Steps (21) and (22) for left side.

(24) Start engine (Para 2-15).

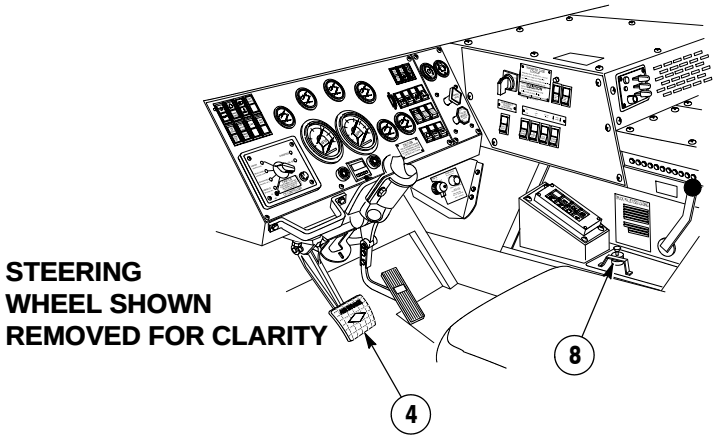


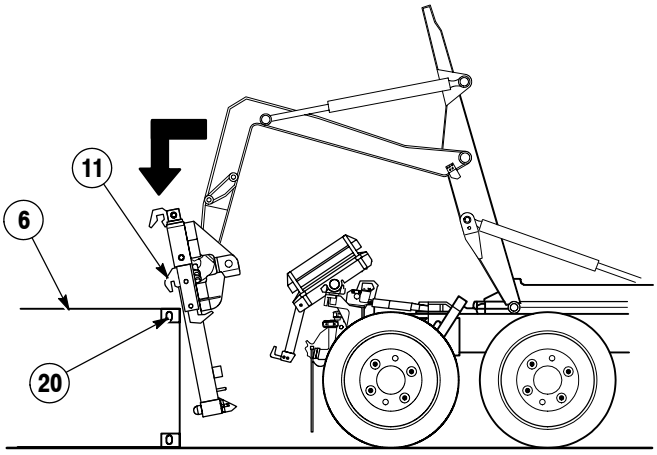


(25) Position half height container front hooks (11) just above and in front of half height container upper corner castings (20).

(26) Apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



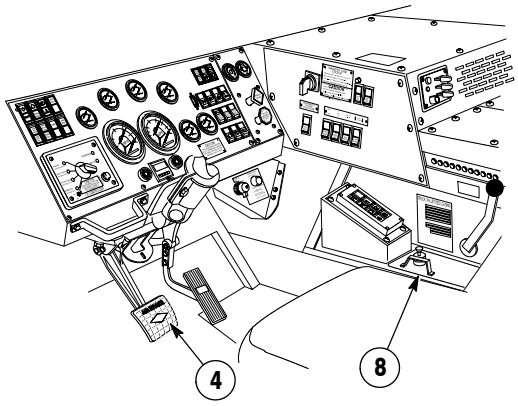


WARNING

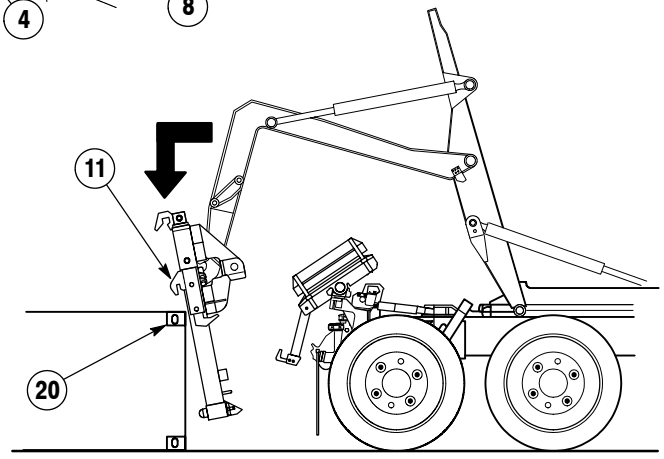
Do not allow lifting frame to contact the ground when half height container front hooks are not engaged with container upper corner castings. Failure to comply may result in damage to equipment and injury or death to personnel.

(27) Release service brake pedal (4) and slowly back up to approximately 12 in. (30 cm) from front of container (6).

(28) Apply service brake pedal (4), move joystick (8) to LOAD and raise lifting frame until half height container front hooks (11) are above container upper front corner castings (20).



STEERING WHEEL SHOWN REMOVED FOR CLARITY



CAUTION

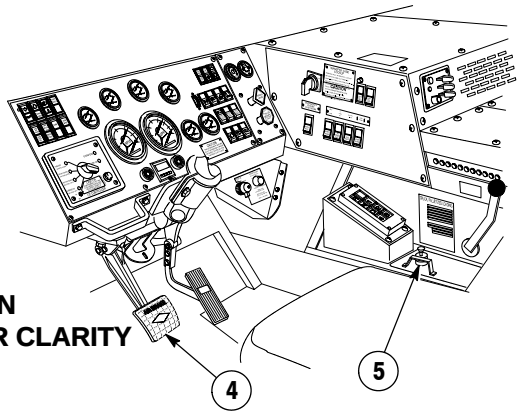
Ensure half height container front hooks are fully engaged with container upper corner castings. Failure to comply may result in damage to equipment.

NOTE

- To get half height container front hooks to properly seat it may be necessary to drive truck forward slightly.
- When container is on side slope, it may be difficult to get both upper hooks properly seated. Lifting frame hangs level. To get lifting frame to hang closer to same angle as container, it may be necessary to temporarily remove one rear container lock from slider and stow on downhill side of lifting frame.

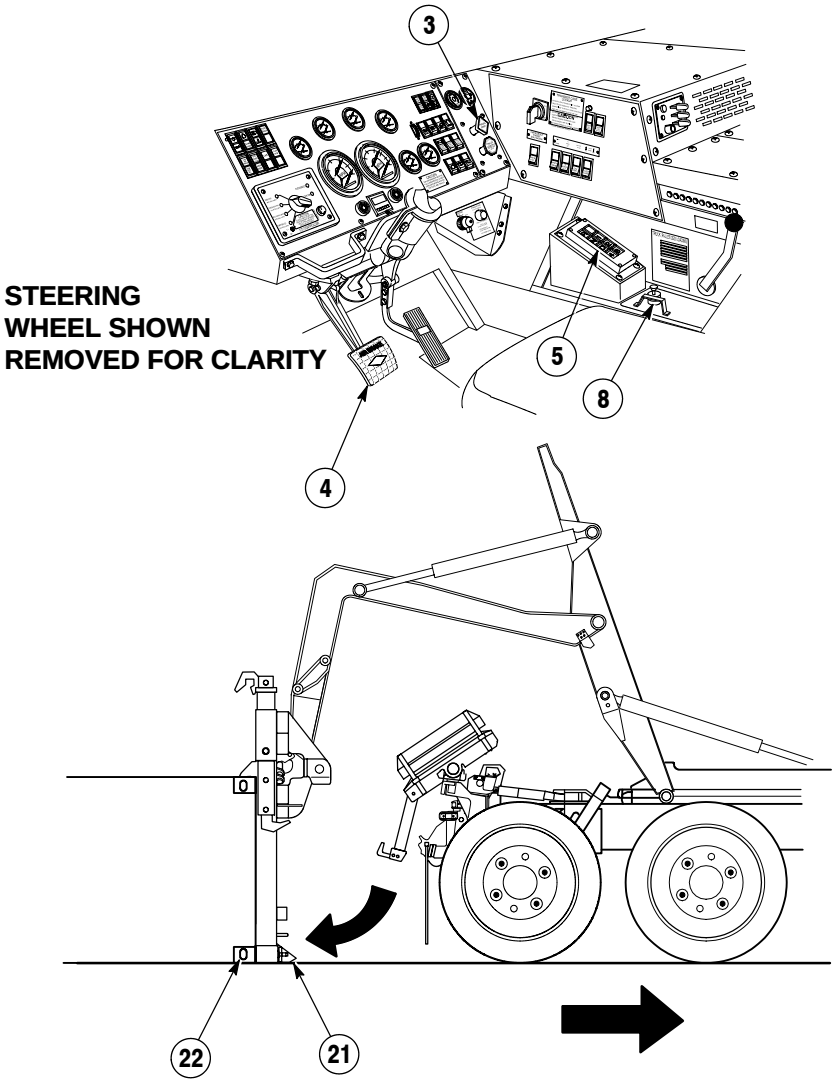
(29) Release service brake pedal (4) and moving joystick (8) to UNLOAD, lower half height container front hooks (11) into half height container upper front corner castings (20).

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



(30) Release service brake pedal (4) and move truck backward approximately 12 in. (30 cm).

(31) Apply service brake pedal (4) and set transmission range selector (5) to Drive (D).

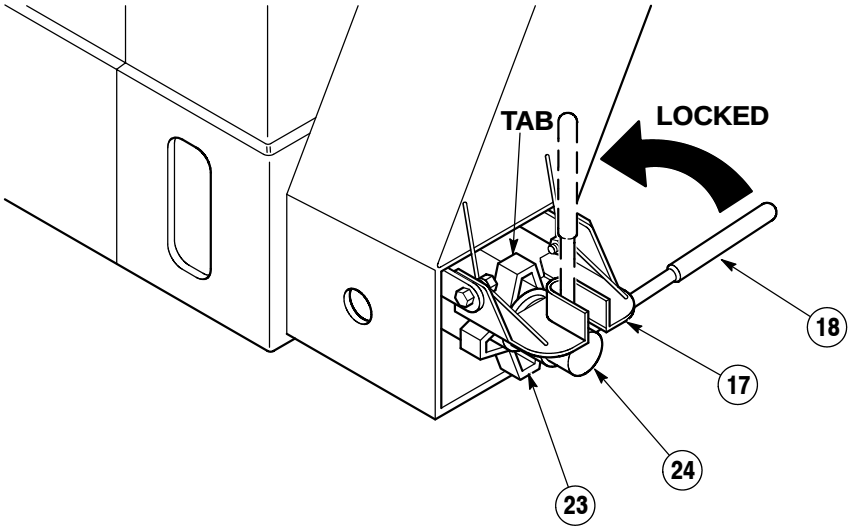


(32) Move joystick (8) to UNLOAD until lower container locks (21) are aligned with container lower front corner castings (22).

(33) Drive forward until lower container locks (21) are seated in container lower front corner castings (22). Apply service brake pedal (4) and release joystick (8).

(34) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

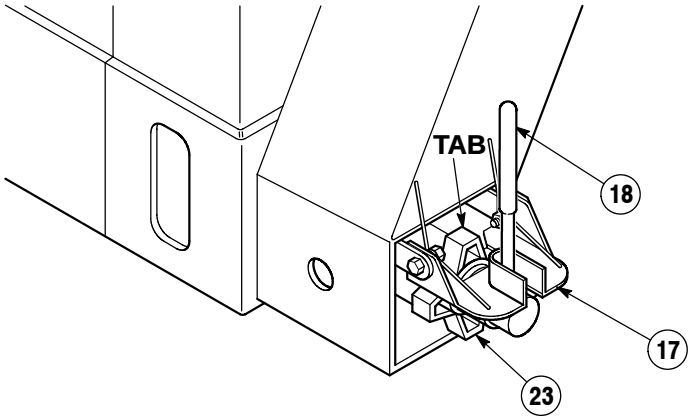
Ensure lower container locks are fully engaged with container lower front corner castings. Failure to comply may result in damage to equipment.

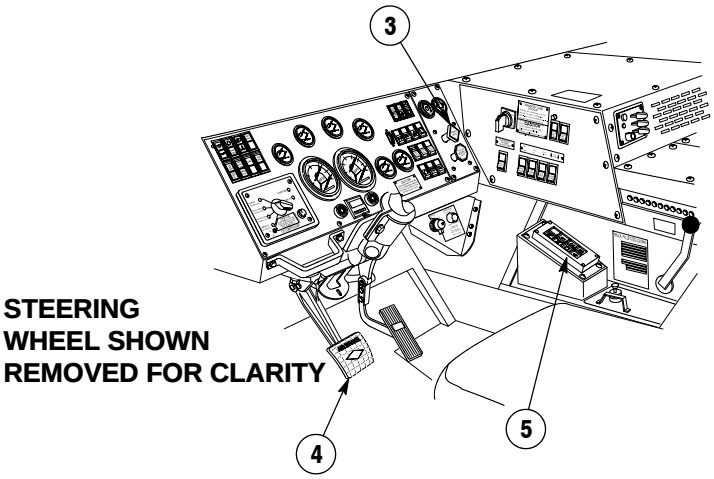
NOTE

- To get container lock handle to rotate, it may be necessary to loosen handnut.
- There are two lower container locks. Right side shown.
- After tightening handnut, it may be necessary to loosen handnut slightly to align tab with handle lock plate.
- Ensure lower container lock handle is secured in slot on handle lock plate.

(35) Hold handle lock plate (17) and rotate lower container lock handle (18) up in the locked position.

(36) Turn handnut (23) clockwise and tighten stem (24).





NOTE

Ensure tab on handnut faces up.

(37) Lower handle lock plate (17) over lower container lock handle (18) and handnut (23) tab.

(38) Repeat Steps (35) through (37) for left side.

(39) Set the transmission range selector (5) in Neutral (N), push in parking brake knob (3) to release parking brakes and release service brake pedal (4).

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

WARNING

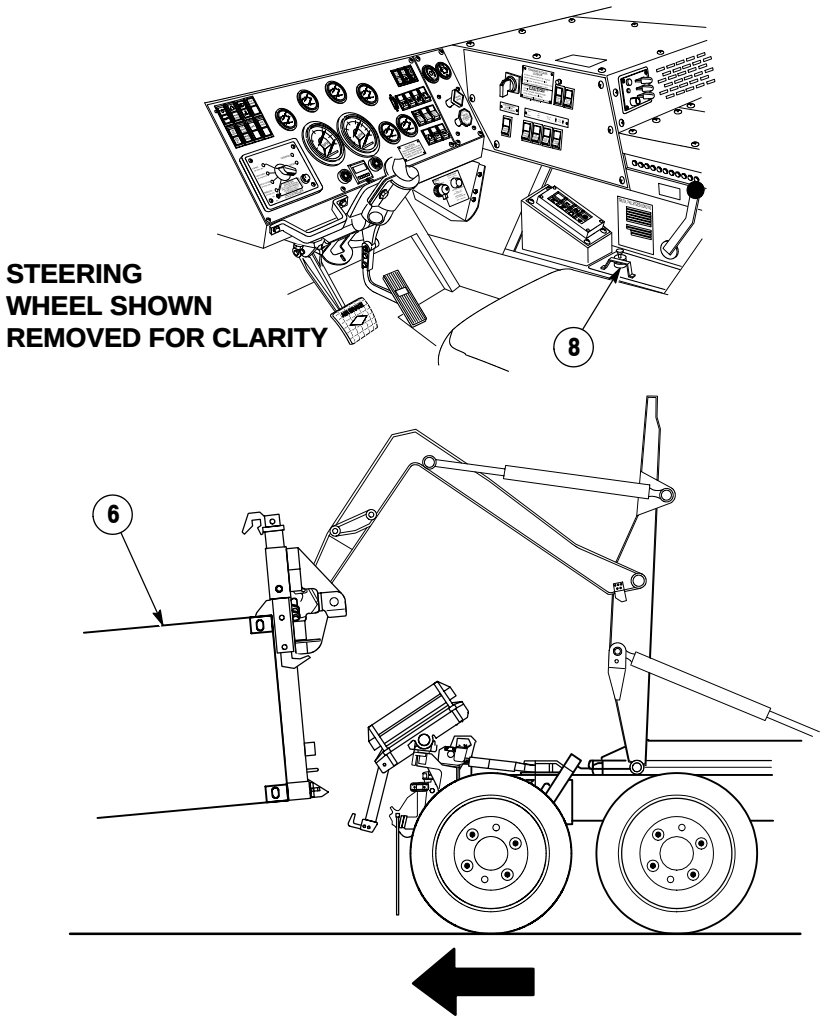
When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

CAUTION

- If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should notify supervisor if it appears payload is unevenly distributed in container or if container load exceeds 35,000 lbs. (15,890 kg). If any of these conditions exist, payload must be redistributed or reduced or damage to equipment may result.
- Load must be evenly distributed in the container. Uneven load distribution may cause the LHS overload indicator to give false signals and cause the LHS to operate incorrectly. Damage to equipment may result.
- If LHS overload lamp illuminates and normal operation has stopped, return load to original position and notify supervisor to have payload redistributed or weight reduced. Failure to comply may result in damage to equipment.
- Ensure parking brake is not applied before starting load sequence or damage to equipment may occur.

NOTE

- The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.
- If container is extremely light or empty, it maybe necessary to place transmission range selector to Reverse (R) and allow truck to roll under container.
- If container is not centered, and transit locks cannot be installed and pinned, repeat Steps (39) through (47) to reposition container.



(40) Move joystick (8) to LOAD, allowing truck to be pulled under container (6).

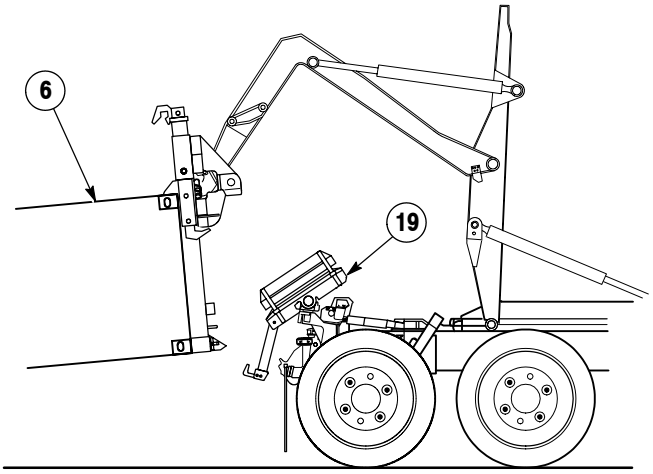
WARNING

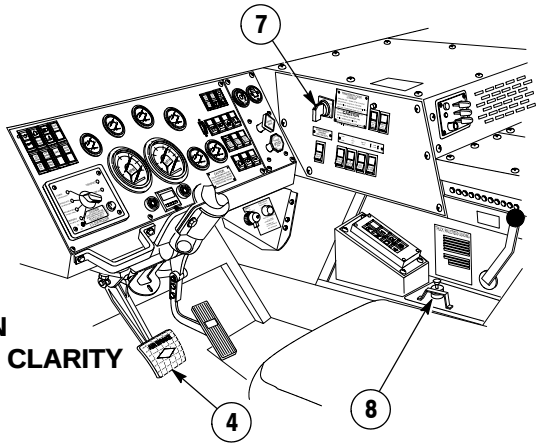
Ensure that container has contacted rear sliders correctly and is between guides. Failure to comply may result in serious injury or death to personnel and damage to equipment.

CAUTION

Reduce engine speed to idle before container contacts rear sliders or damage to equipment may result.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



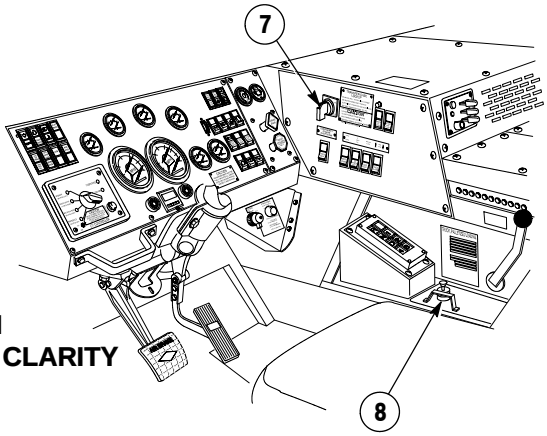


STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

- LHS overload lamp may illuminate when lifting container from unusual conditions.
- As load is lifted, truck will be pulled under container. Some steering wheel adjustment may have to be made to ensure that container contacts rear sliders correctly and is between guides.

(41) As container (6) contacts rear sliders (19), reduce engine speed to idle and apply service brake pedal (4).



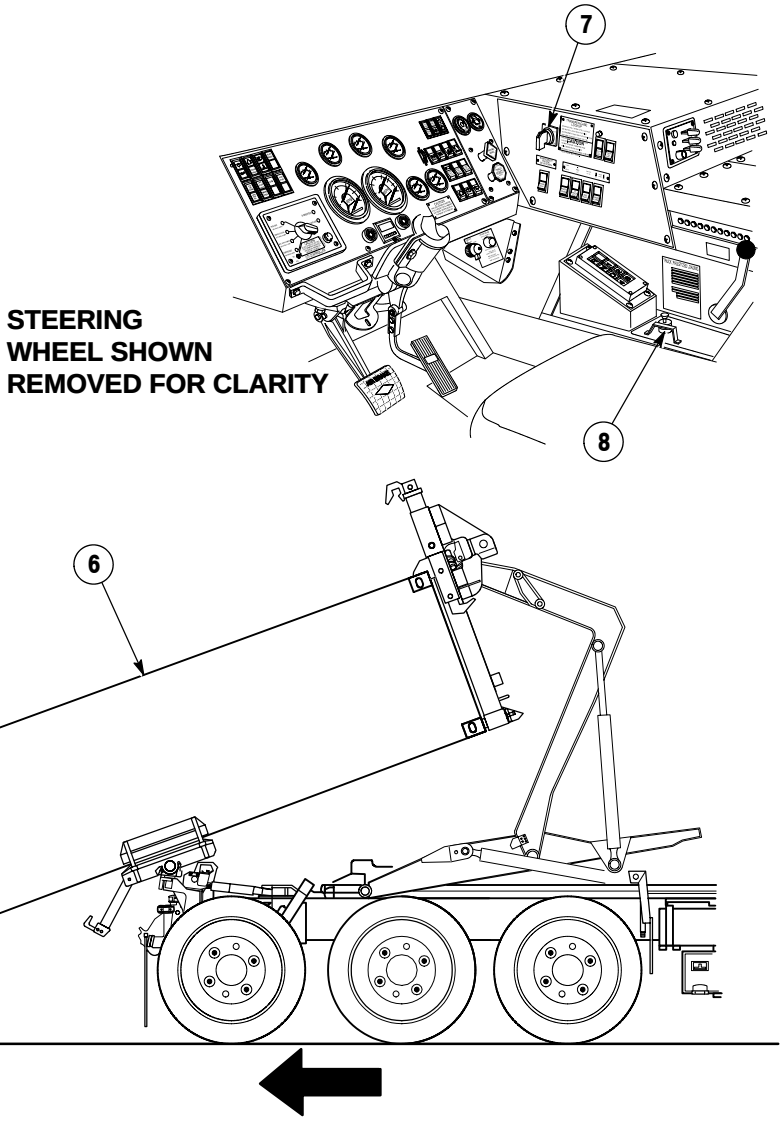
STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

If container is being loaded in soft soil conditions, perform Steps (42) through (44).

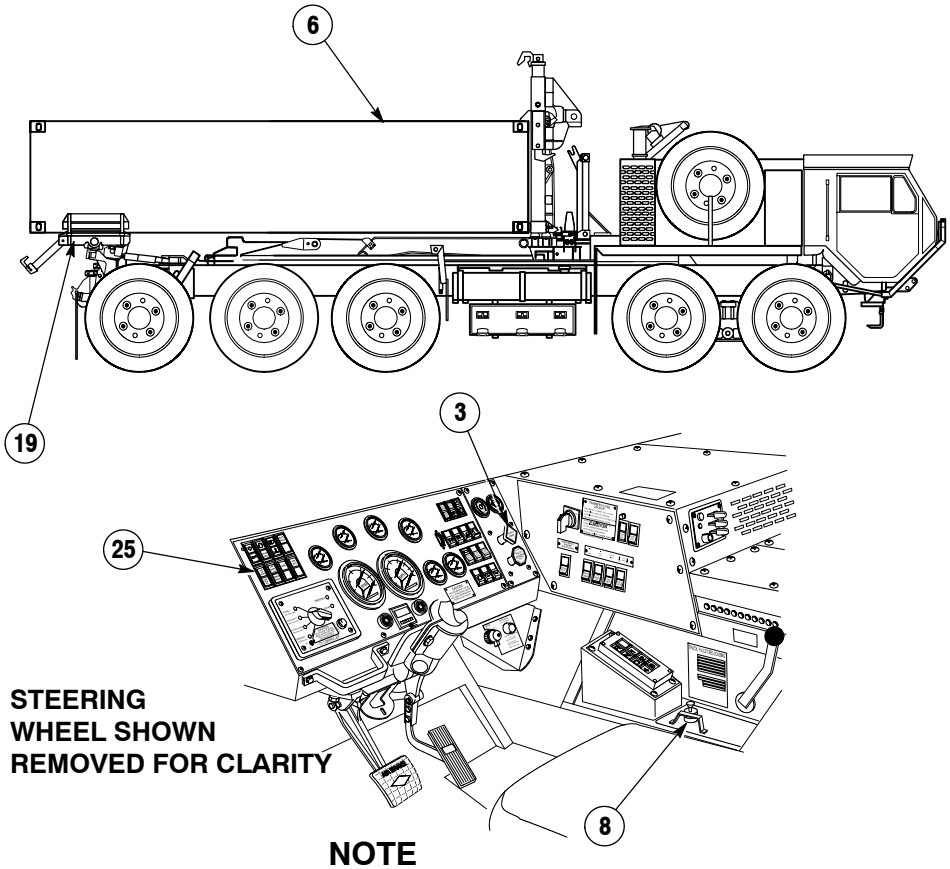
(42) Release joystick (8). Set hydraulic selector switch (7) to MAN H.A.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



(43) Move joystick (8) to LOAD until container (6) is approximately 2 ft. (0.61 m) off the ground. Release joystick.

(44) Set hydraulic selector switch (7) to AUTO. Resume normal AUTO operations.



NOTE

Engine speed may be increased and decreased to ease loading.

(45) After container (6) contacts rear sliders (19), increase engine speed to approximately 1500 rpm until container is almost loaded. Reduce engine speed to idle.

CAUTION

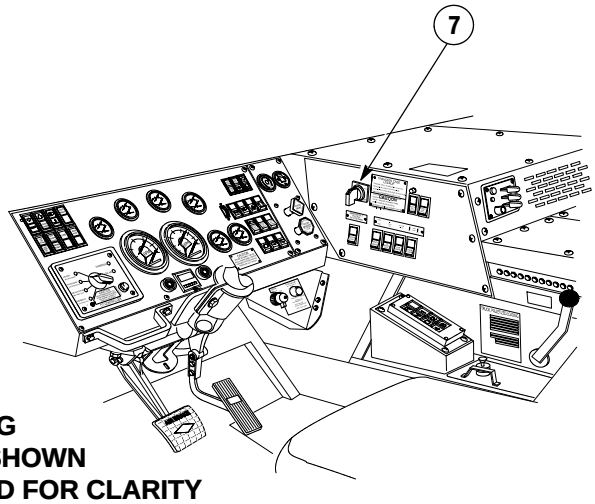
After loading operations using CHU kit and container and the LHS NO TRANSIT indicator goes off, operator must release the joystick from the LOAD position. Failure to release the joystick may cause LHS OVER LOAD indicator to illuminate and hydraulic cylinders to remain active, forcing a temporary bow in the LHS frame, resulting in contact between LHS and container.

(46) Continue loading until container (6) is fully loaded and LHS NO TRANS lamp (25) goes out.

(47) Release joystick (8).

(48) Pull out parking brake knob (3) to apply parking brake.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



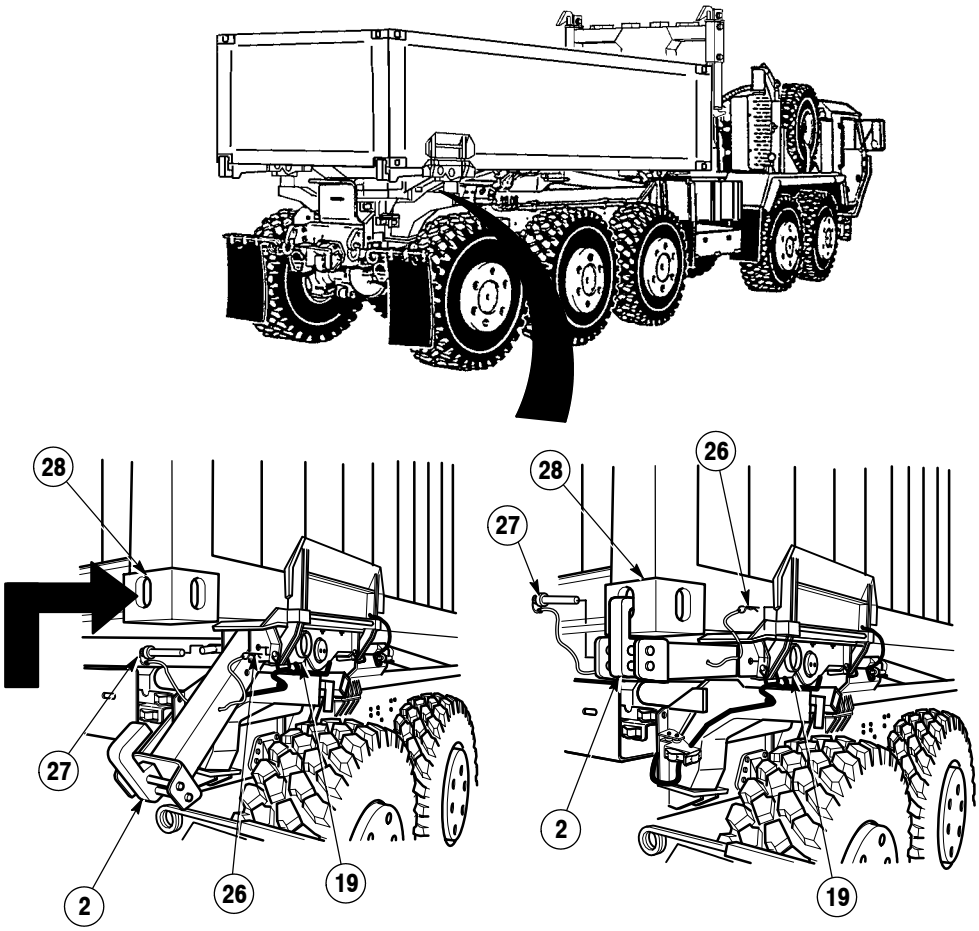
STEERING WHEEL SHOWN REMOVED FOR CLARITY

CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.

(49) Turn hydraulic selector switch (7) to OFF.

(50) Shut off engine (Para 2-23).



NOTE

- There are two rear container locks. Right side shown.
- If container is not centered and transit locks cannot be installed and pinned, repeat Steps (40) through (50) to reposition container.

(51) Support rear container lock (2) and remove lock pin (26) and pin (27).

(52) Rotate rear container lock (2) up and position into container lower rear corner casting (28).

(53) Install pin (27) and lock pin (26) in rear container lock (2) and slider (19).

(54) Perform Steps (51) through (53) for left side.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

b. Unloading

WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a container. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS, lifting frame, and container or serious injury or death may result.

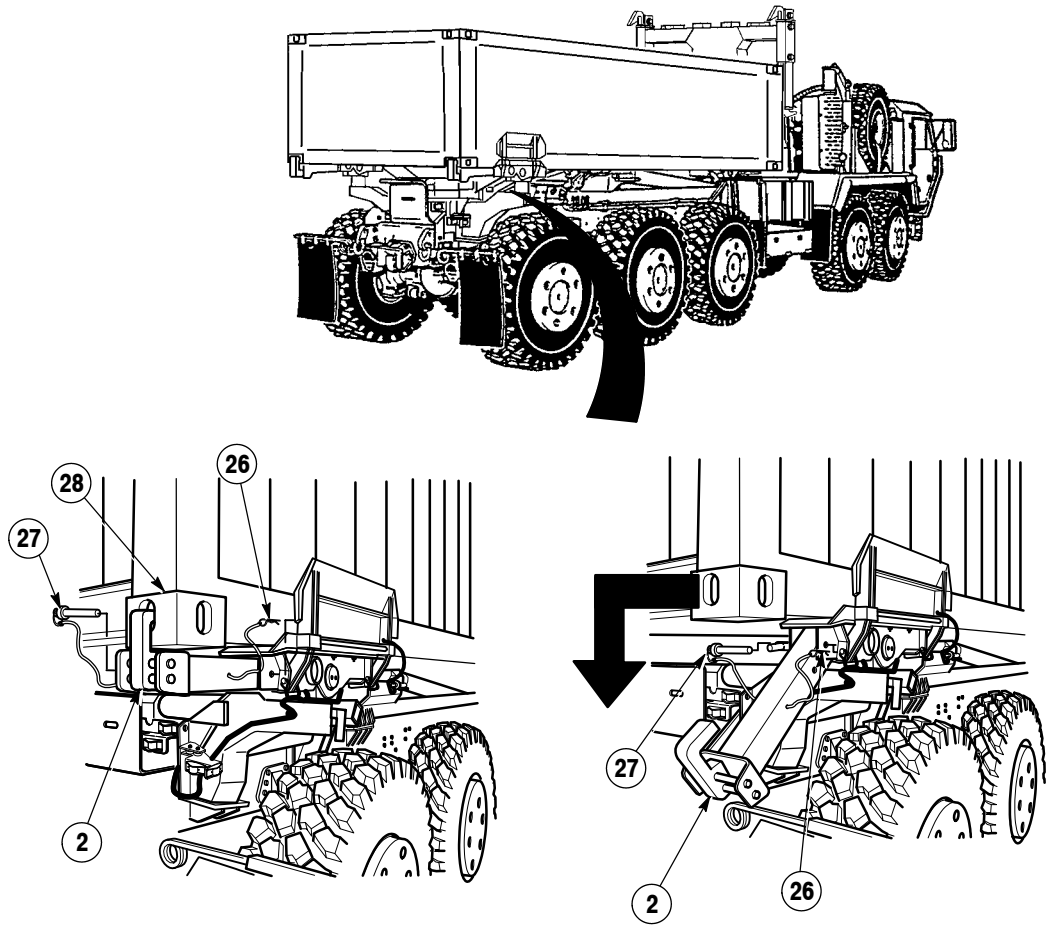
CAUTION

- Check that ground conditions where container will be placed can support the container weight or damage to the container, lifting frame or LHS may result.
- Use extreme caution when loading/unloading container with side doors. Container must remain centered during loading/ unloading or flanges on side may be damaged and/or door hinges may make hard contact with guides.

NOTE

For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-loading a Flatrack in Auto Mode”.

(1) Check area for operating room at front and rear of truck. Check overhead clearance and ground conditions.



NOTE

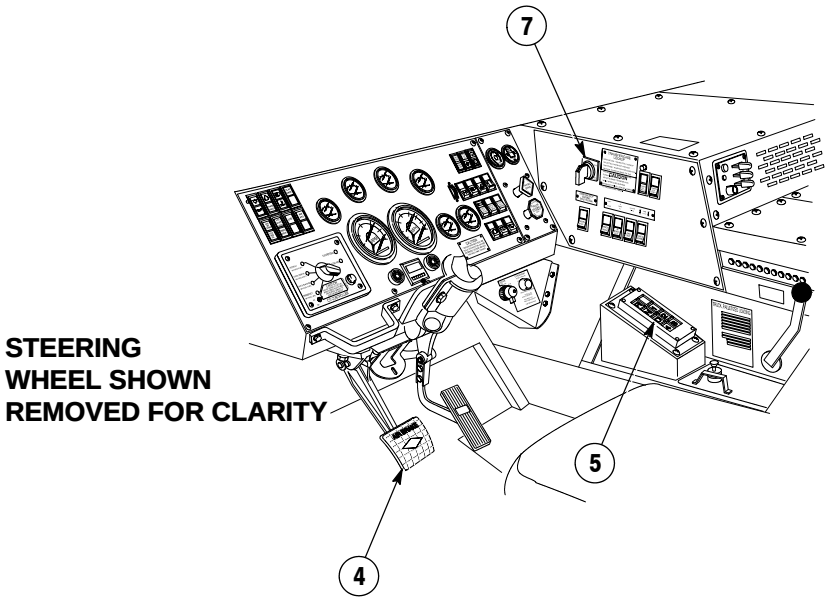
There are two rear container locks. Right side shown.

(2) Remove lock pin (26), pin (27) and rear container lock (2) from lower rear corner casting (28).

(3) Rotate rear container lock (2) in down position and install pin (27) and lock pin (26).

(4) Perform Steps (2) and (3) for left side.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



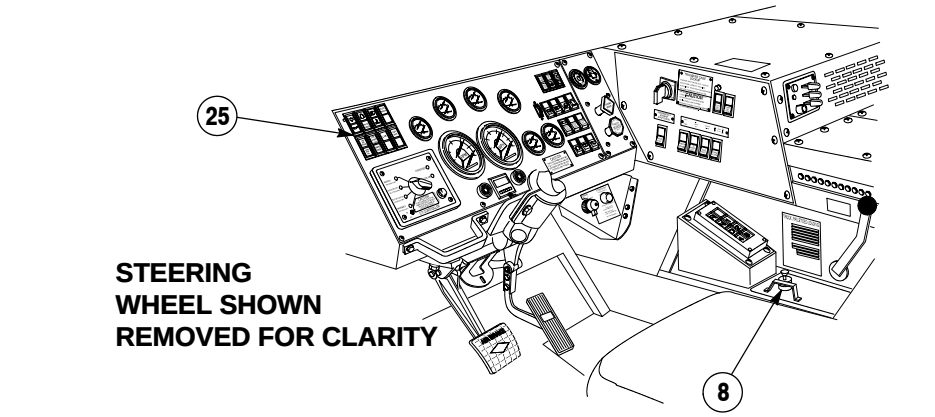
(5) Start engine (Para 2-15).

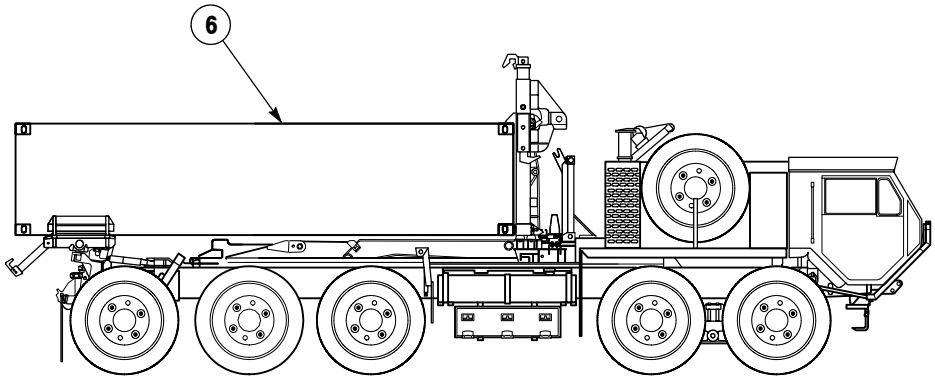
(6) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(7) Turn hydraulic selector switch (7) to AUTO.





WARNING

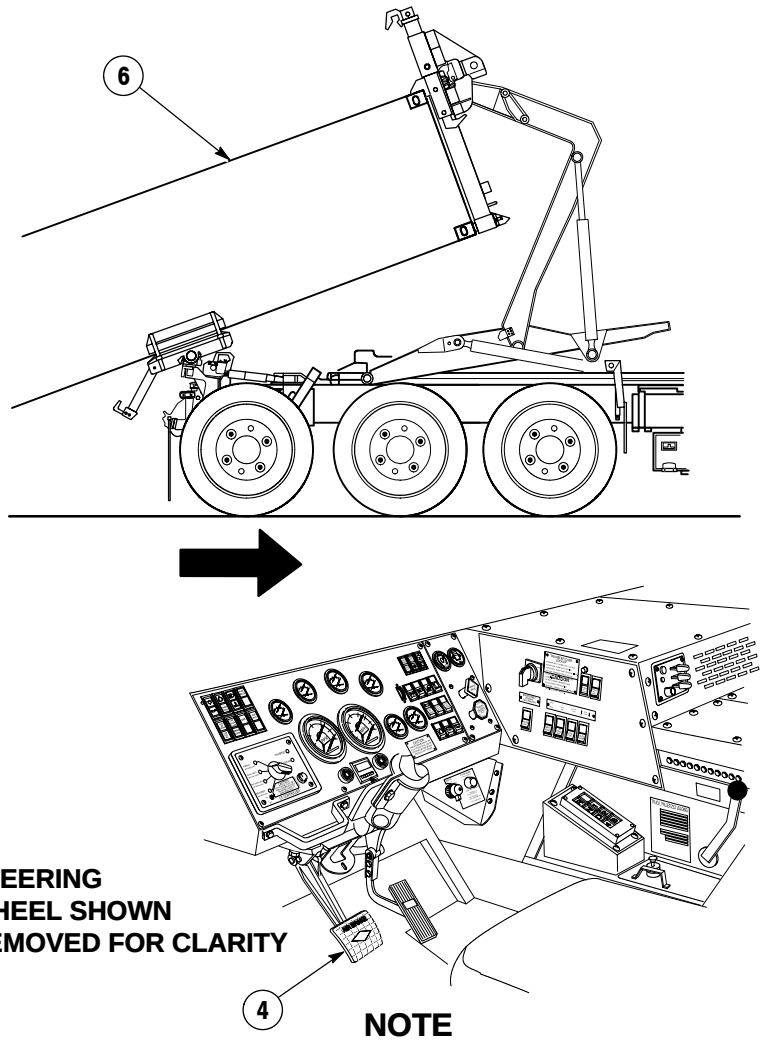
When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

NOTE

LHS will not operate and unload if rear container locks are engaged.

(8) Move joystick (8) to UNLOAD. Container (6) will start to move rearward. LHS NO TRANS lamp (25) will illuminate. Maintain engine speed at idle until front of container raises approximately 12 in. (30 cm).

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

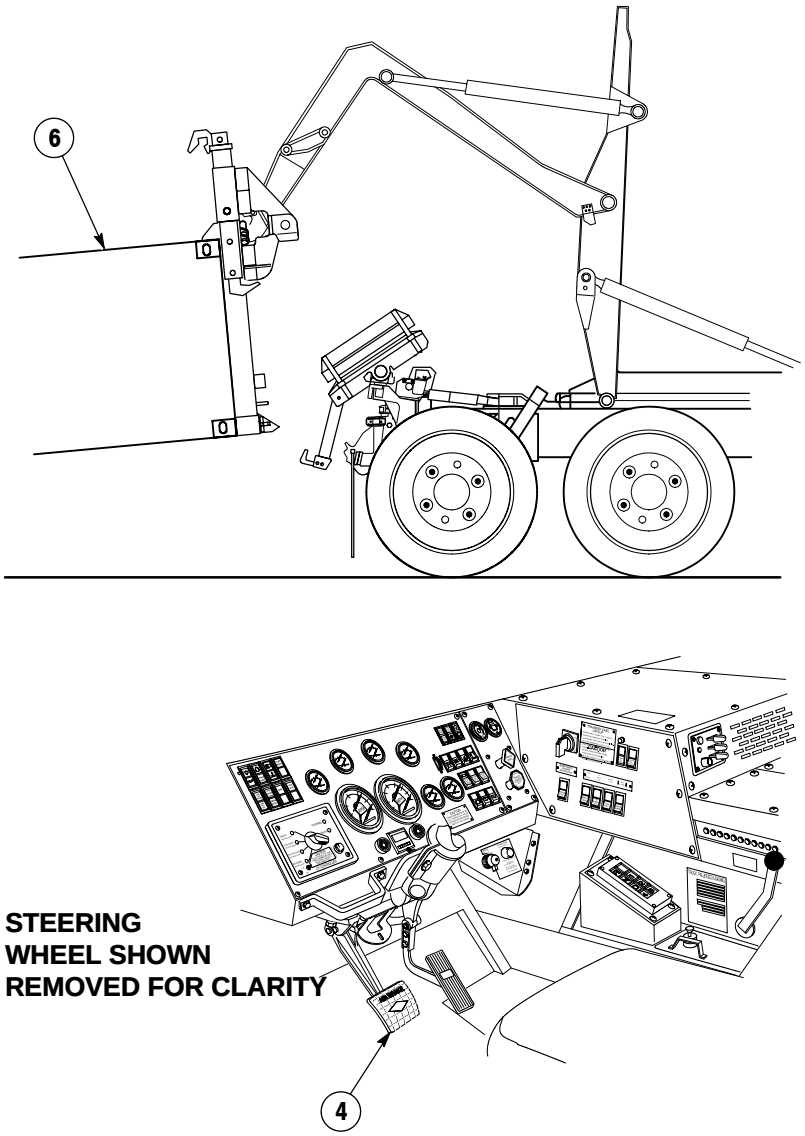


NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

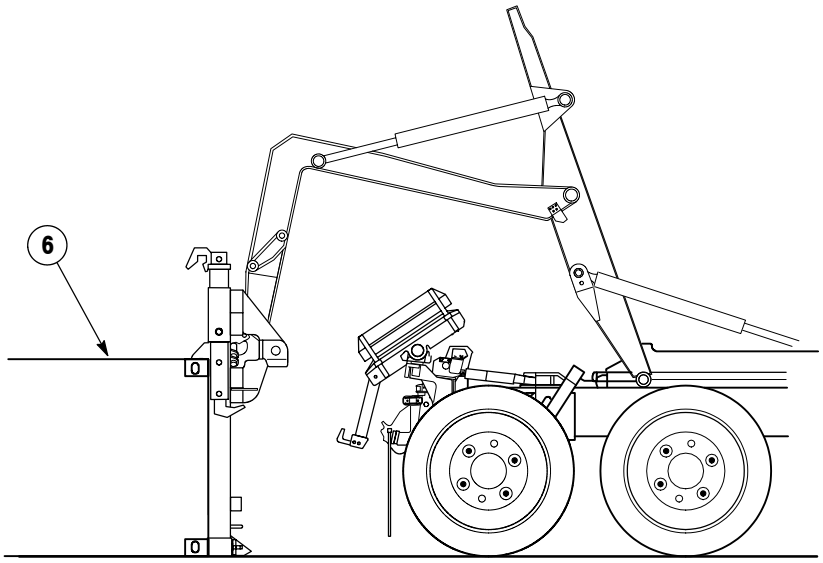
(9) Continue to unload container (6) until back edge of container touches ground.

(10) Release service brake pedal (4) and allow container (6) to push truck forward from under container.



(11) As front of container (6) approaches within approximately 8 in. (20.3 cm) of ground, decrease engine speed to idle and apply service brake pedal (4).

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



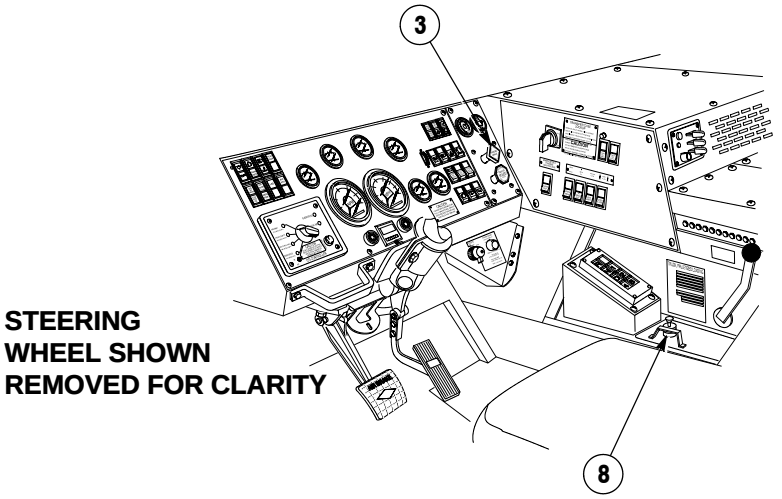
CAUTION

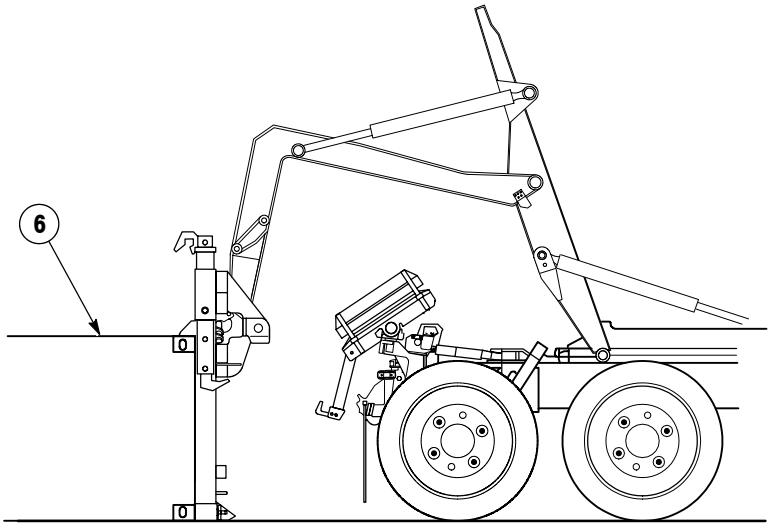
Once truck's rear suspension has been relieved of container load, do not continue in UNLOAD position as possibility of jacking up the rear of truck with hook arm may occur and damage to equipment may result.

NOTE

If container is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) and allow truck to move out from under container.

(12) Continue unloading until bottom of container (6) is on ground and rear suspension is unloaded.

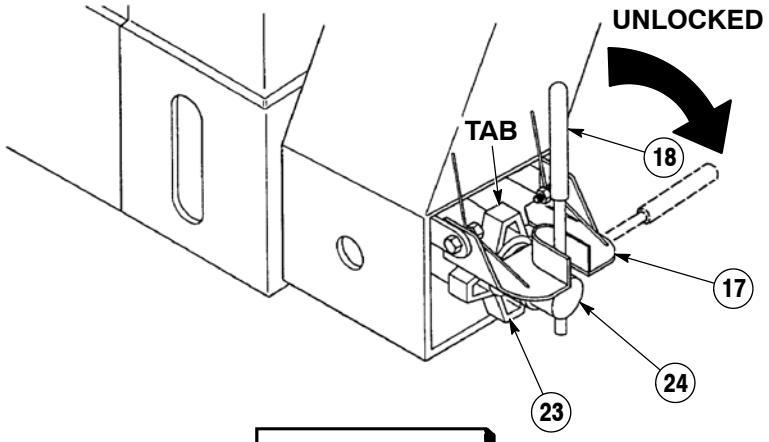




(13) Release joystick (8) when container (6) is resting on ground.

(14) Pull out parking brake knob (3) to apply parking brakes.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



WARNING

Ensure that all tension has been relieved between LHS hook and lifting frame prior to unlocking lifting frame lower container locks. Stay clear of lifting frame when unlocking lifting frame lower container locks as lifting frame may separate from container unexpectedly. Failure to comply may result in serious injury or death to personnel.

NOTE

There are two lifting frame lower container locks. Right side shown.

(15) Raise handle lock plate (17) and turn handnut (23) counterclockwise and loosen stem (24).

NOTE

Ensure tab on handnut faces up.

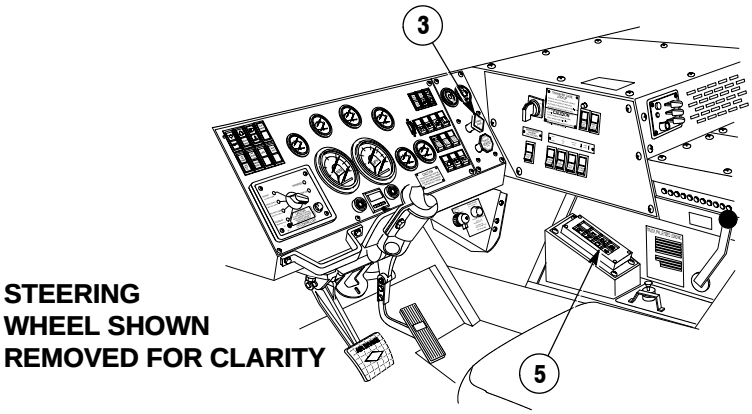
(16) Rotate lower container lock handle (18) towards center of truck to unlocked position.

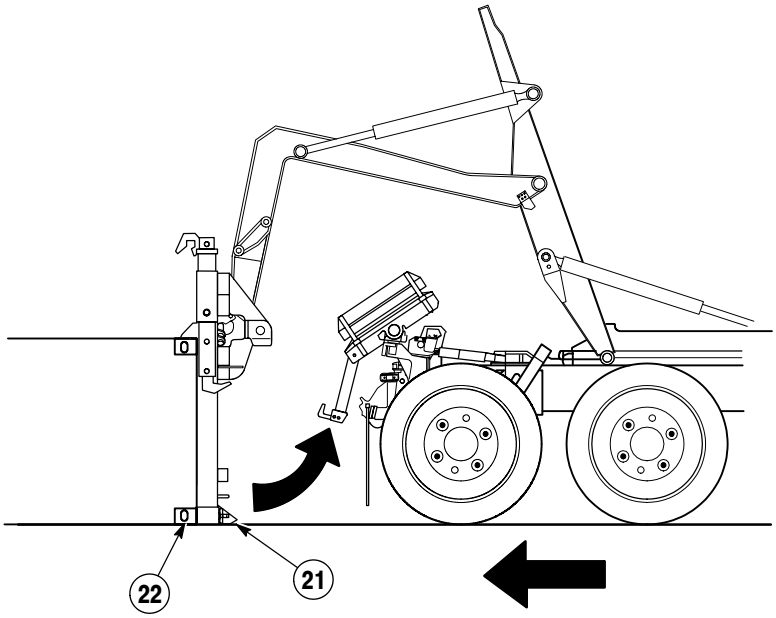
CAUTION

Handnut must be tightened clockwise to tighten stem. Failure to tighten stem may cause damage to equipment during next container loading procedure.

(17) Turn handnut (23) clockwise and tighten stem (24).

(18) Release handle lock plate (17) over container lock handle and handnut (23) tab.



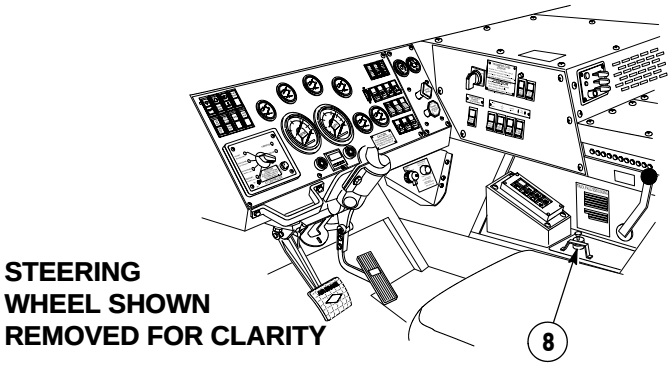


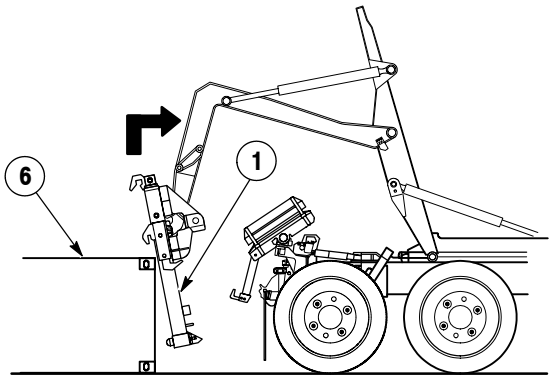
(19) Repeat Steps (15) through (18) for left side.

(20) Push in parking brake knob (3) and release parking brakes. Set transmission range selector (5) to Reverse (R).

(21) Move truck backward until lower container locks (21) disengage from lower front corner castings (22) approximately 4 to 6 in. (10 to 15 cm).

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





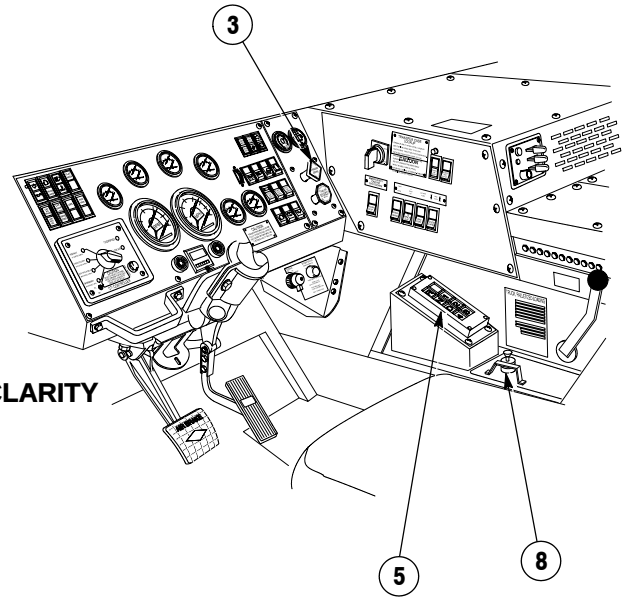
CAUTION

Ensure that the half height container front hooks are completely disengaged and do not hang up in container upper corner castings when retracting LHS. Failure to comply may result in damage to the half height container front hooks and/or container.

NOTE

It may be necessary to move the truck forward or backward slightly to get the half height container front hooks to disengage.

(22) Move joystick (8) to LOAD position until lifting frame (1) is disengaged from container (6).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

(23) Release joystick (8).

(24) Move truck forward until rear of truck is approximately 9 ft. (2.75 m) in front of container.

(25) Move joystick (8) to unload position until lifting frame is positioned approximately 2 in. (30 cm) off of ground.

(26) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

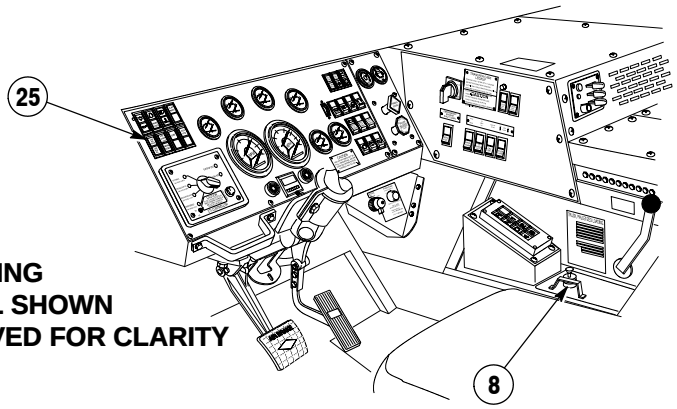
CAUTION

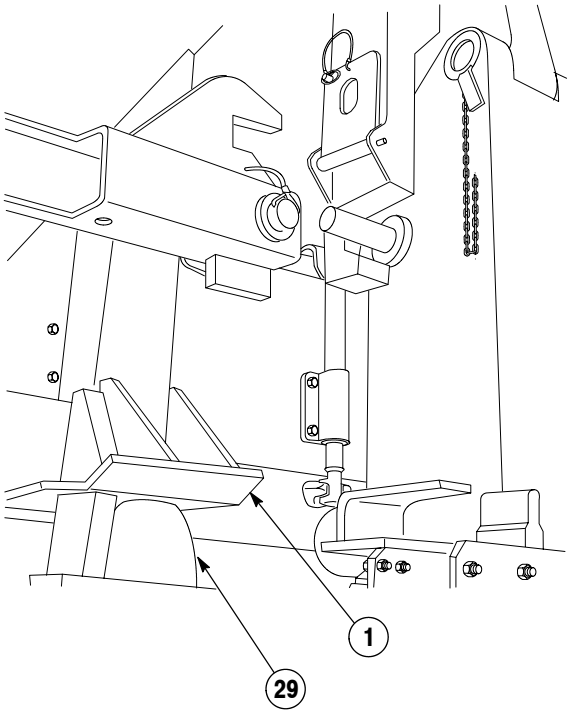
- On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Switch hydraulic selector to MAN M.F. and retract the mainframe until the lifting frame clears the rear sliders. Return hydraulic selector to AUTO and continue (LOAD) operation. Failure to comply may result in damage to equipment.

- Never drive with LHS NO TRANS lamp illuminated. An illuminated lamp means that the LHS is not fully stowed. Failure to comply may result in damage to equipment.

NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

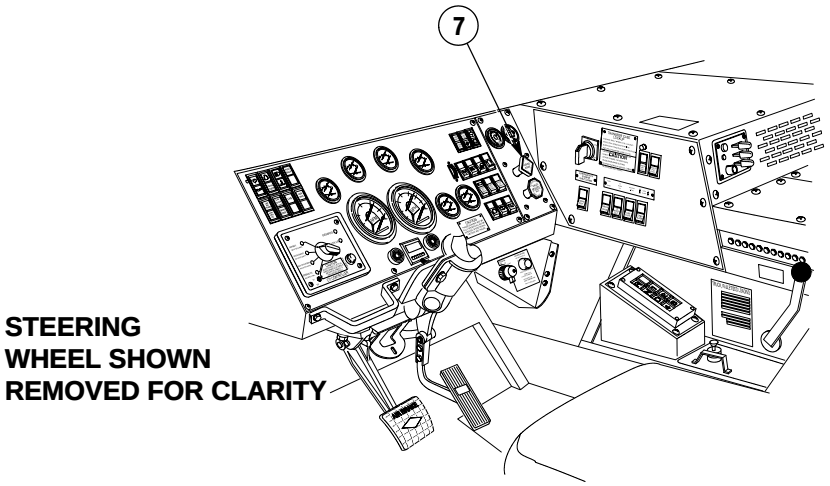




(27) Move joystick (8) to LOAD position until LHS is fully retracted and lifting frame (1) is positioned on bumper supports (29). LHS NO TRANS lamp (25) will go out indicating LHS is in transport position.

(28) Release joystick (8).

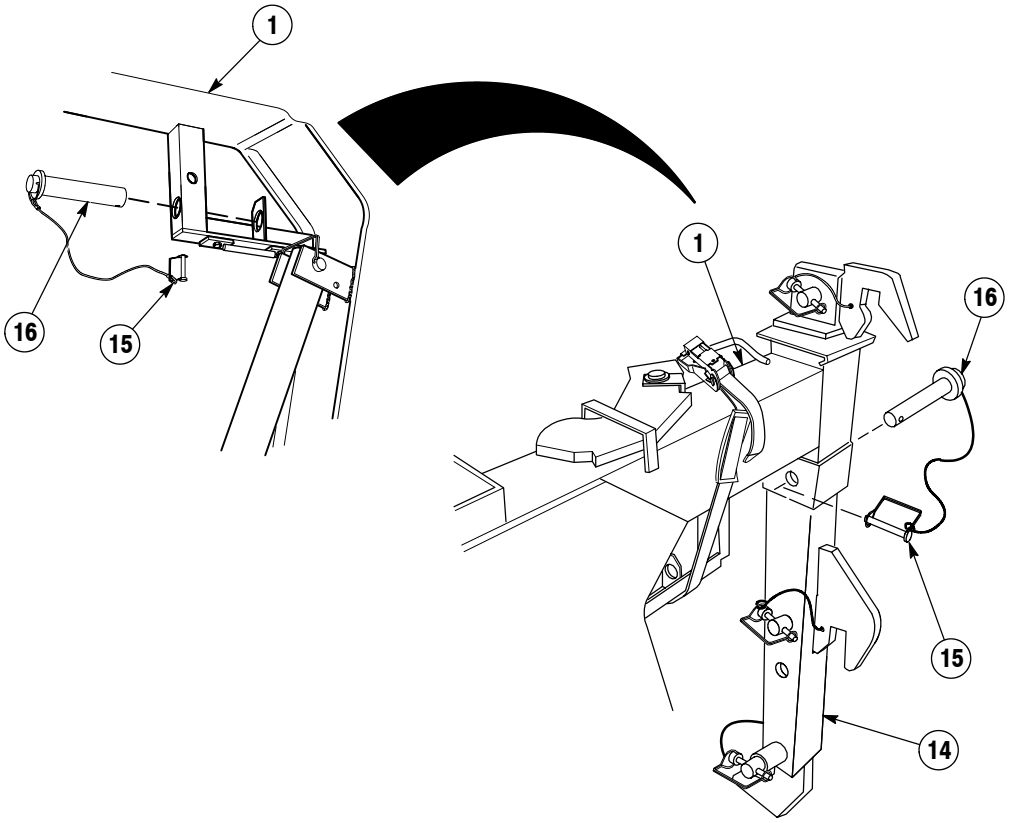
2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.

(29) Turn hydraulic selector switch (7) to OFF.



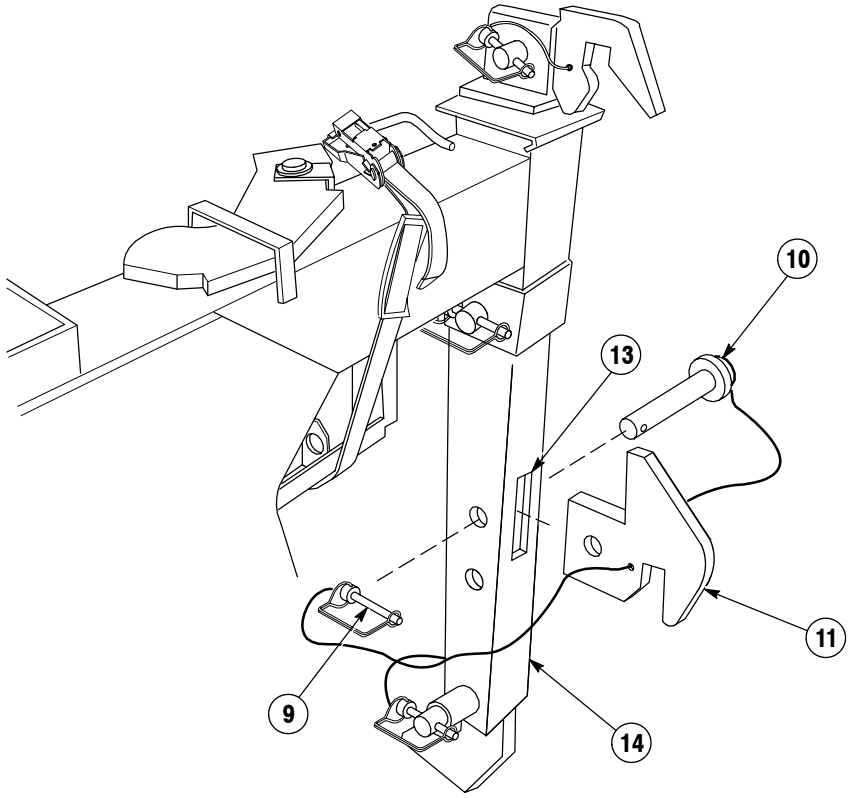
NOTE

- Perform Steps (30) through (34) if CHU operations for 51 in. containers has been completed.
- There are two slide arms and half height container front hooks. Right side shown.

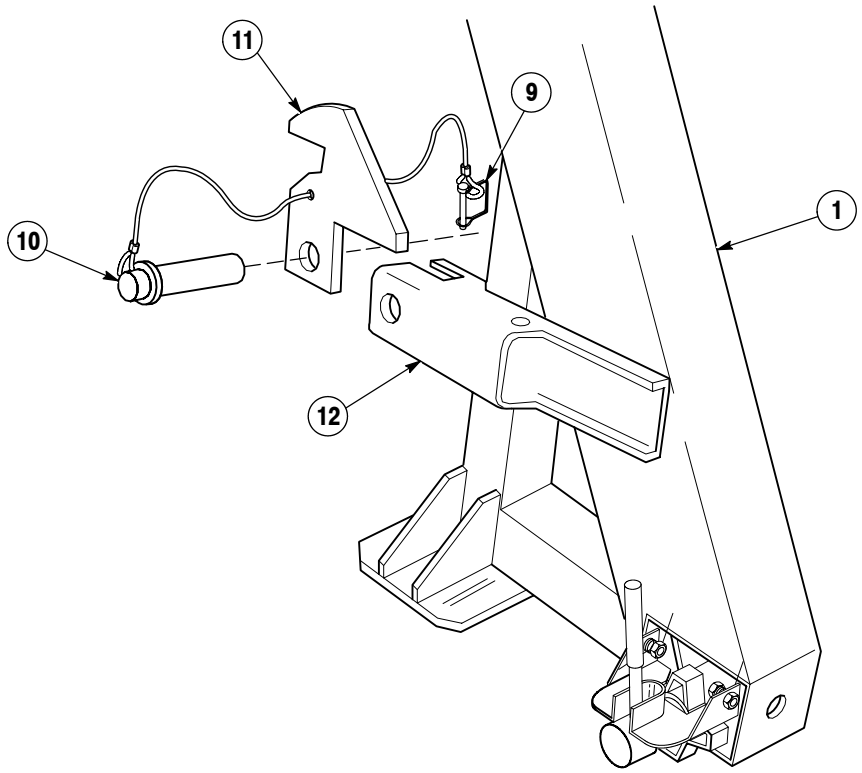
(30) Remove lock pin (15) and pin (16) from stow position on lifting frame (1).

(31) Install pin (16) and lock pin (15) in lifting frame (1) and slide arm (14) upper hole.

2-35. LOADING AND UNLOADING CONTAINER (51 INCHES (130 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



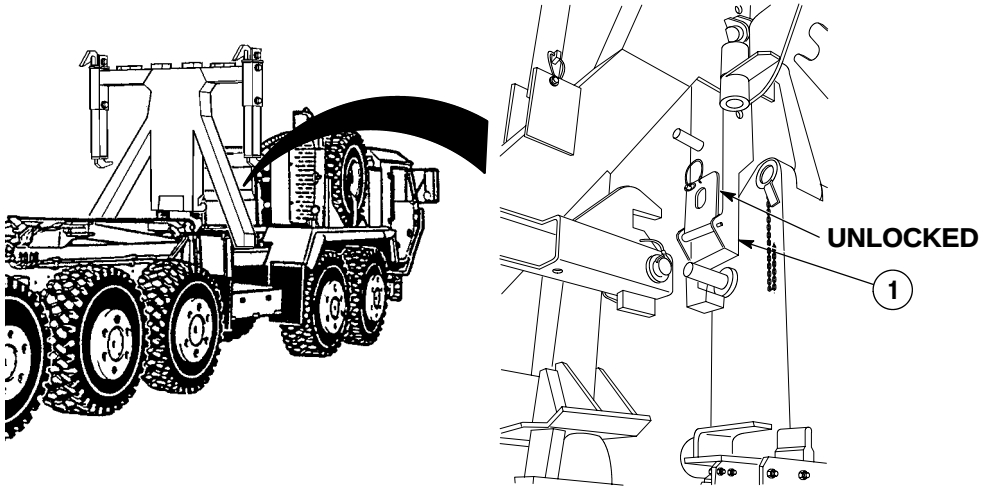
(32) Remove lock pin (9), pin (10) and half height container front hook (11) from slot (13) in slide arm (14).



(33) Position half height container front hook (11) in stowage bracket (12) on lifting frame (1) and install pin (10) and lock pin (9).

(34) Repeat Steps (30) and (33) for left side.

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF).



a. Loading

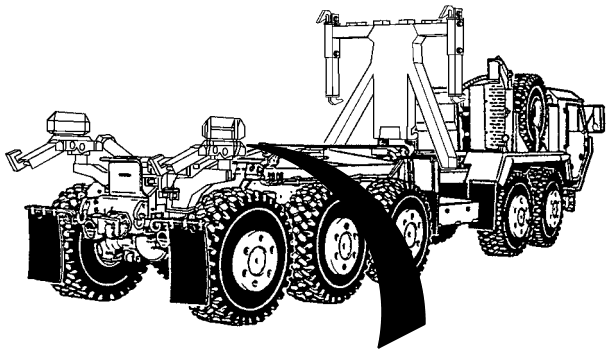
WARNING

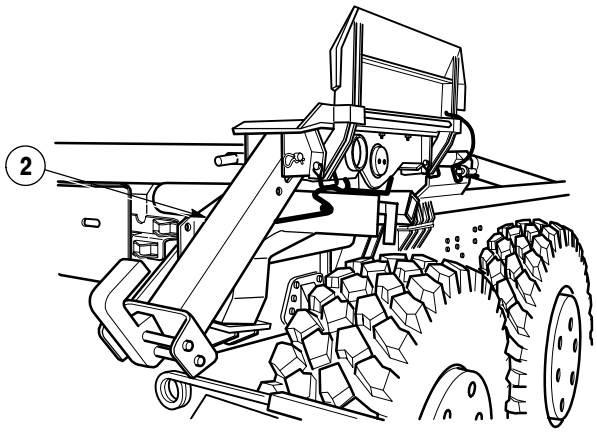
Lifting frame weighs 1600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

CAUTION

Ensure lifting frame is in the unlocked position before attempting to load a container to truck. Failure to comply will result in damage to equipment.

(1) Ensure lifting frame (1) is in container mode (Para 2-32) and unlocked (Para 2-37).





CAUTION

Ensure truck is in container mode before attempting to load a container to truck. Failure to comply will result in damage to equipment.

(2) Ensure truck is in container mode, refer to (Para 2-32).

(3) Ensure rear container lock (2) is in ready mode, refer to (Para 2-32).

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Maximum permissible gross container weight is 35,000 lbs. (15,890 kg).
- Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.
- Do not stand between lifting frame and container. Truck could roll crushing personnel between them causing serious injury or death.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.

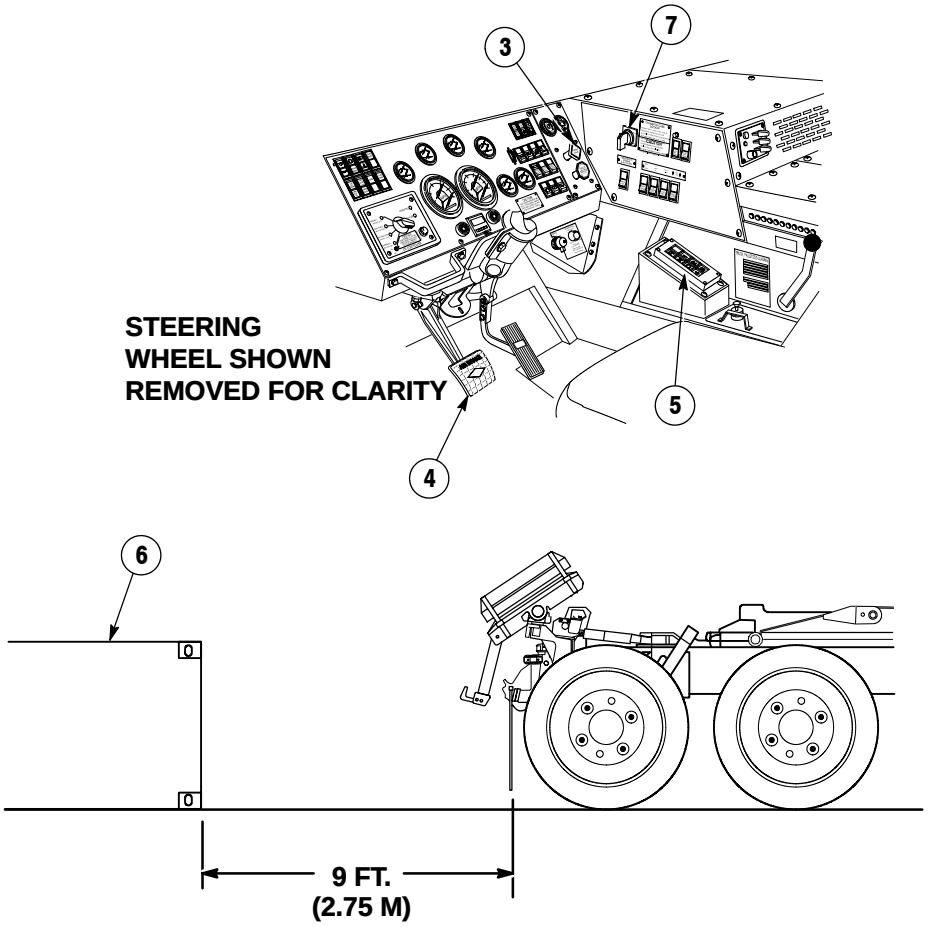
CAUTION

- Use extreme caution when loading/unloading container with side doors. Container must remain centered during loading/unloading or flanges on side may be damaged and/or door hinges may make hard contact with guides.
- When operating CHU with non-standard, end-opening, 20 ft. long shipping containers, operator needs to take extra care to ensure that sliders and guides contact container properly, container slides on sliders properly, and container loads centered on truck. Failure to comply can result in container getting hung up or making hard contact with sliders and guides, causing damage to CHU or container.

NOTE

- For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-loading a Flatrack in Auto Mode”**.**
- Rear mud flaps may be pinned up to provide better visibility of lifting frame lower container locks.
- Multiple connected containers can not be used with CHU. This includes Six CONS and Quad CONS.
- It is recommended that two personnel be used to ease operation (Driver and Spotter to position lifting frame).

(4) Start engine (Para 2-15).



(5) Push in parking brake knob (3), apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).

(6) Release service brake pedal (4) and position rear of truck within 9 ft. (2.75 m) of front of container (6), aligning centerline of truck within 2 in. (5 cm) of container centerline.

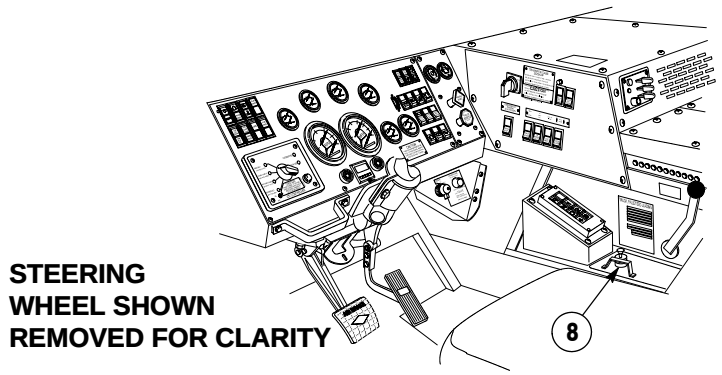
(7) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

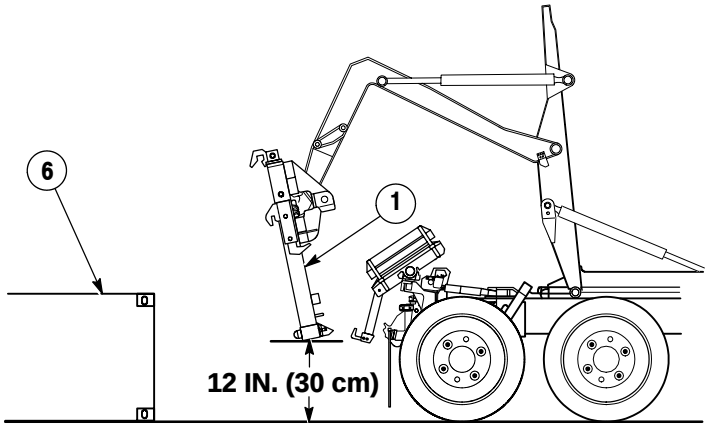
CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(8) Turn hydraulic selector switch (7) to AUTO.

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





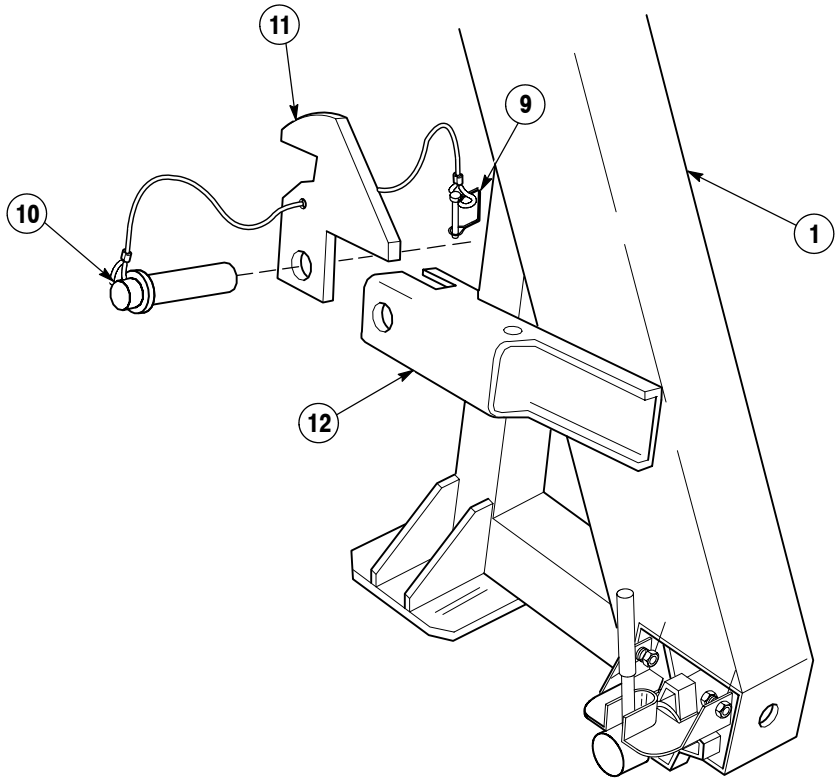
CAUTION

On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Return hydraulic selector to AUTO and continue (UNLOAD) operation. Repeat as required. Failure to comply may result in damage to equipment.

(9) Move joystick (8) to UNLOAD position until lifting frame (1) is positioned in front of container (6).

(10) Operate LHS in AUTO mode until lifting frame (1) is approximately 12 in. (30 cm) off of ground.

(11) Release joystick (8).



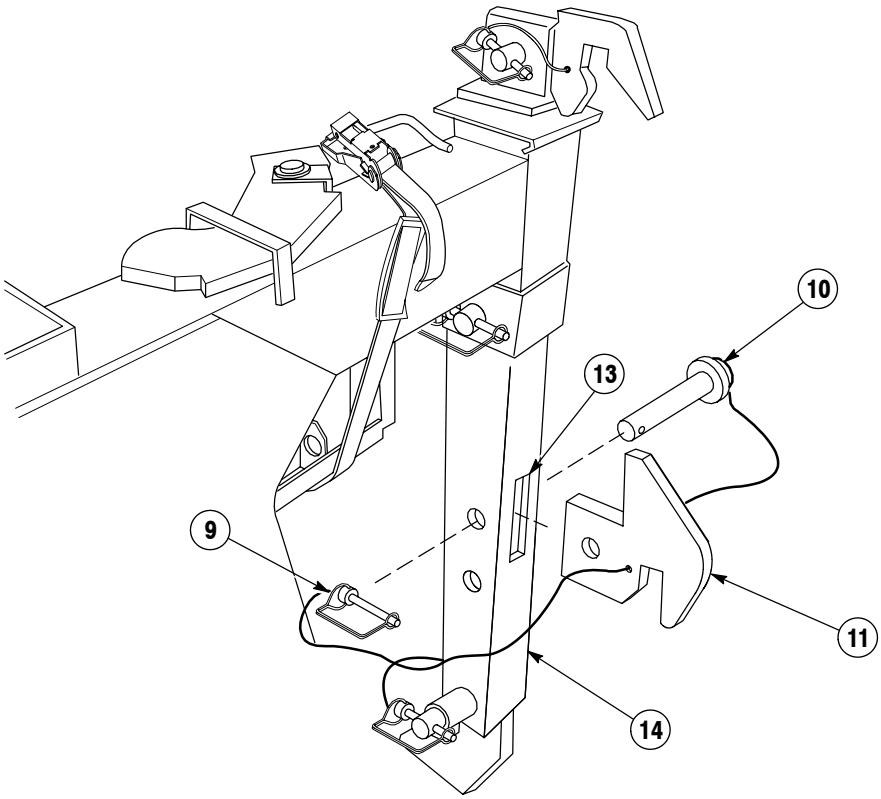
(12) Shut off engine (Para 2-23).

NOTE

- Refer to the lifting frame data plate for the proper configuration needed for the height of container being loaded.
- There are two slide arms. Right side shown.

(13) Remove lock pin (9), pin (10) and half height container front hook (11) from stowage bracket (12) on lifting frame (1).

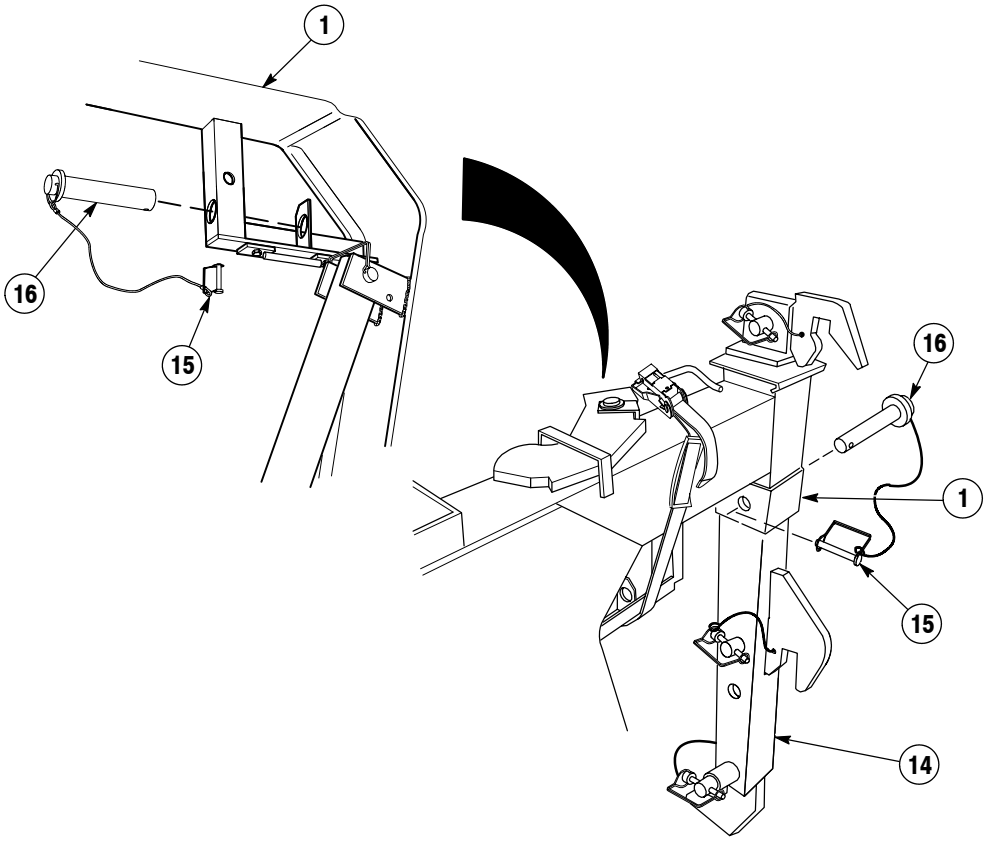
2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

Ensure half height container front hooks face down when installed.

(14) Position half height container front hook (11) in slot (13) on slide arm (14) and install pin (10) and lock pin (9).



NOTE

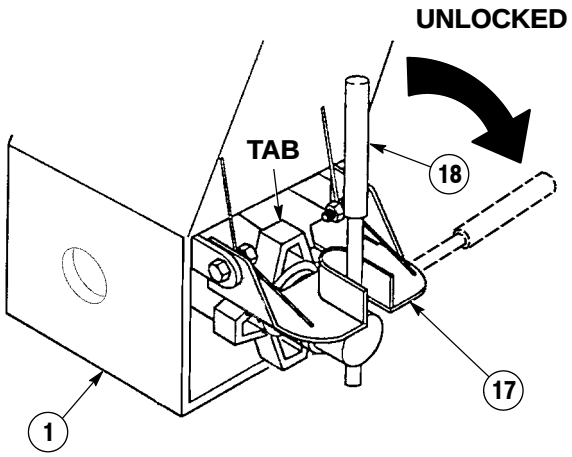
If pin is in stow position, perform Steps (15) and (16).

(15) Remove lock pin (15) and pin (16) from stow position on lifting frame (1).

(16) Install pin (16) and lock pin (15) in lifting frame (1) and slide arm (14) in upper hole.

(17) Repeat Steps (13) through (16) for left side.

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



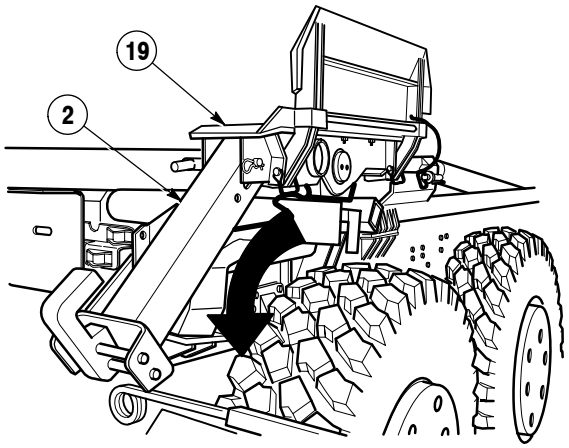
NOTE

- There are two lifting frame lower container locks and rear sliders. Right side shown.
- Ensure lifting frame lower container lock handle is positioned in slot on handle lock plate.
- Ensure tab on handnut faces up.

(18) Raise handle lock plate (17) and rotate lower container lock handle (18) towards center of lifting frame (1) to unlocked position.

(19) Release handle lock plate (17) on lifting frame (1).

(20) Repeat Steps (18) and (19) for left side.



CAUTION

Ensure sliders are clear of debris and surfaces are properly greased or damage to equipment may result.

NOTE

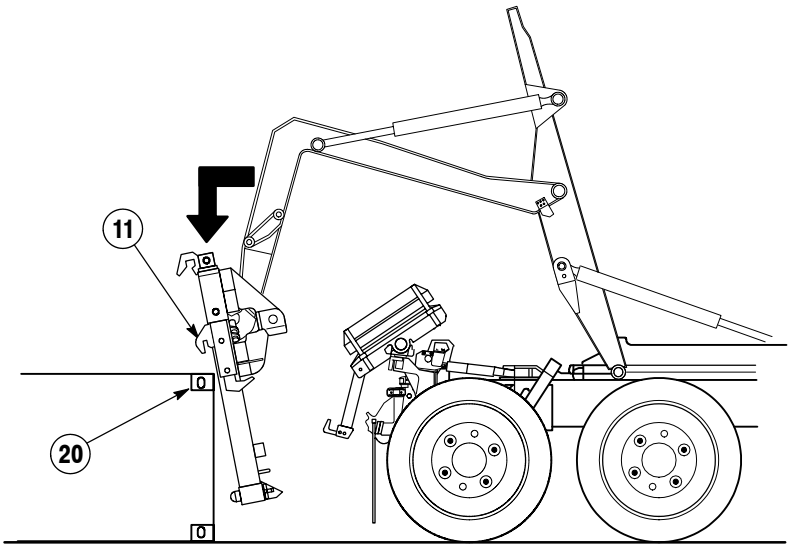
There are two rear sliders and container locks. Right side shown.

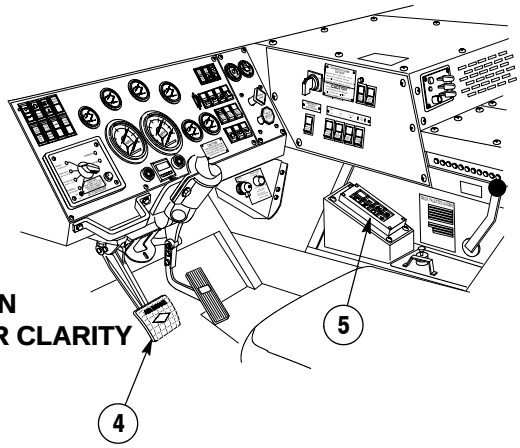
(21) Rotate slider (19) so rear of slider faces down.

(22) Ensure rear container lock (2) is in ready mode or down position (Para 2-32).

(23) Repeat Steps (21) and (22) for left side.

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

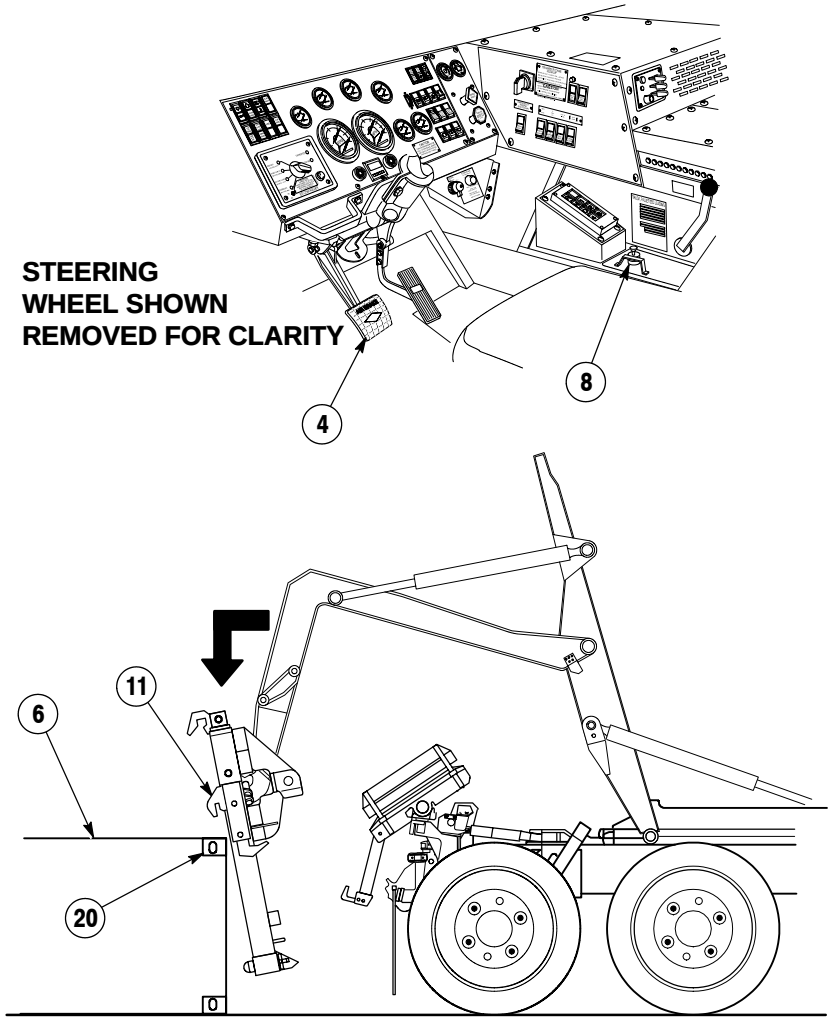




(24) Start engine (Para 2-15).

(25) Position half height container front hooks (11) just above and in front of half height container upper corner castings (20).

(26) Apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).



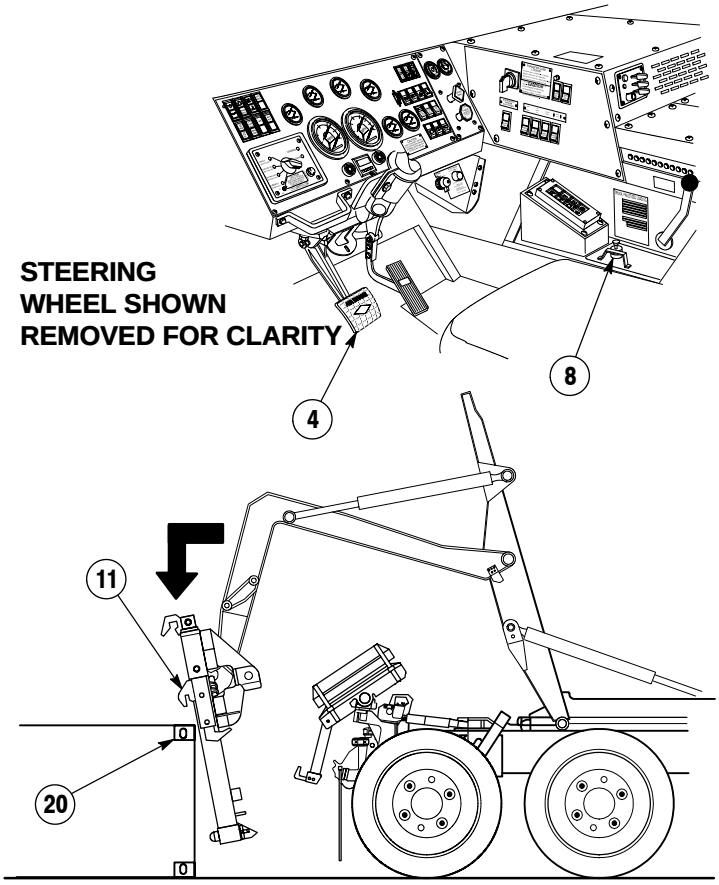
WARNING

Do not allow lifting frame to contact the ground when half height container front hooks are not engaged with container upper corner castings. Failure to comply may result in damage to equipment and injury or death to personnel.

(27) Release service brake pedal (4) and slowly back up to approximately 12 in. (30 cm) from front of container (6).

(28) Apply service brake pedal (4), move joystick (8) to LOAD and raise lifting frame until half height container front hooks (11) are above container upper front corner castings (20).

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



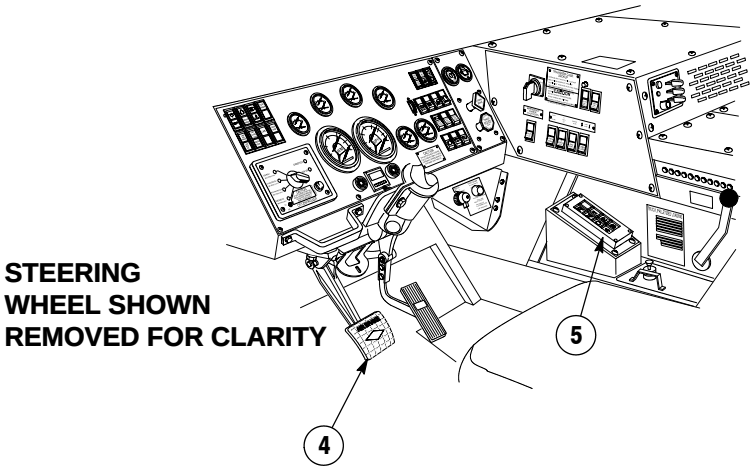
CAUTION

Ensure half height container front hooks are fully engaged with container upper corner castings. Failure to comply may result in damage to equipment.

NOTE

To get half height container front hooks to properly seat it may be necessary to drive truck forward slightly.

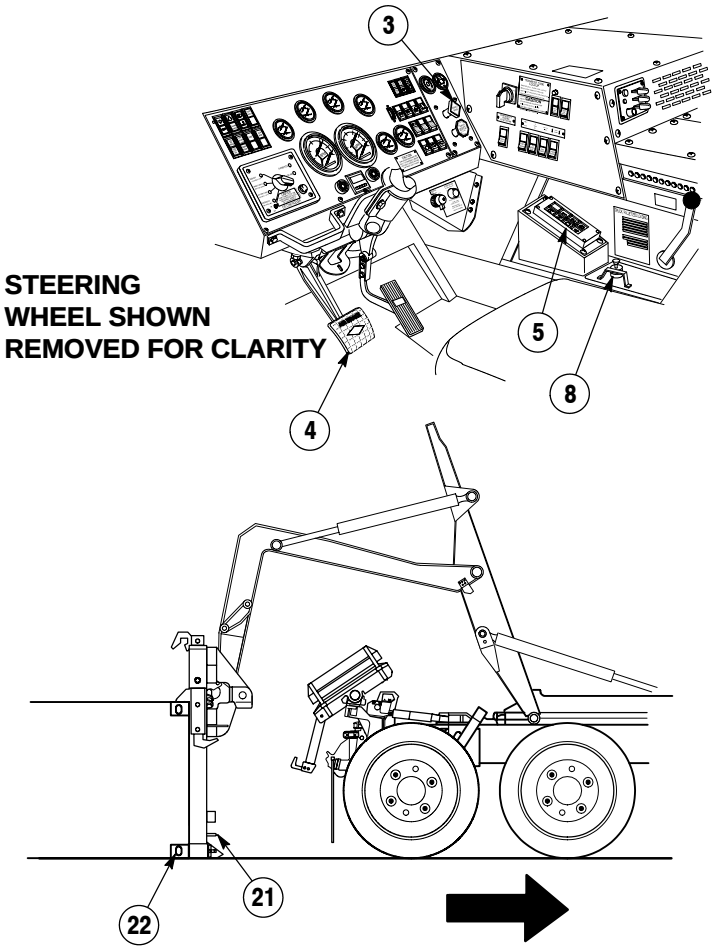
(29) Release service brake pedal (4) and moving joystick (8) to UNLOAD, lower half height container front hooks (11) into half height container upper front corner castings (20).



(30) Release service brake pedal (4) and move truck backward approximately 12 in. (30 cm).

(31) Apply service brake pedal (4) and set transmission range selector (5) to Drive (D).

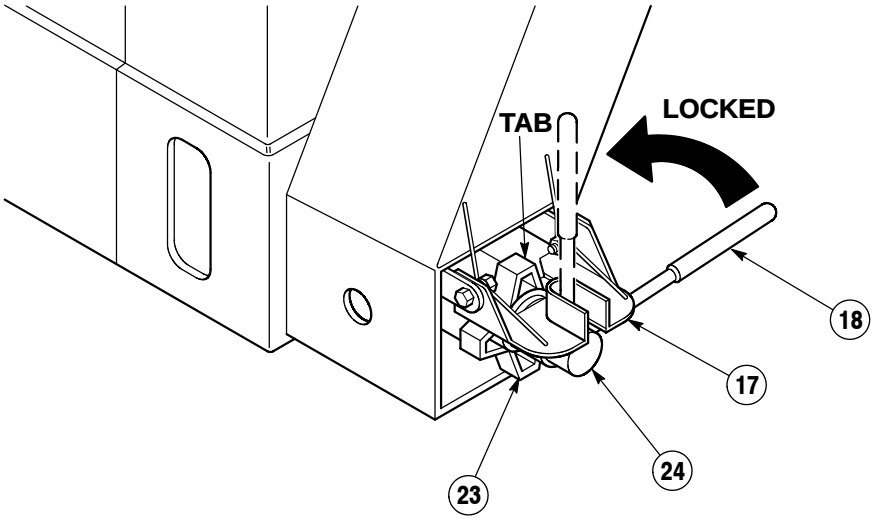
2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



(32) Move joystick (8) to UNLOAD until lower container locks (21) are aligned with container lower front corner castings (22).

(33) Drive forward until lower container locks (21) are seated in container lower front corner castings (22). Apply service brake pedal (4) and release joystick (8).

(34) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.



CAUTION

Ensure lower container locks are fully engaged with container lower front corner castings. Failure to comply may result in damage to equipment.

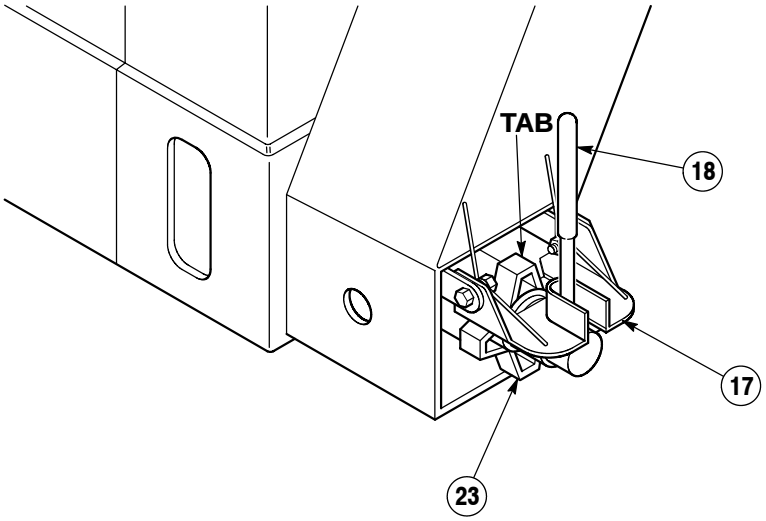
NOTE

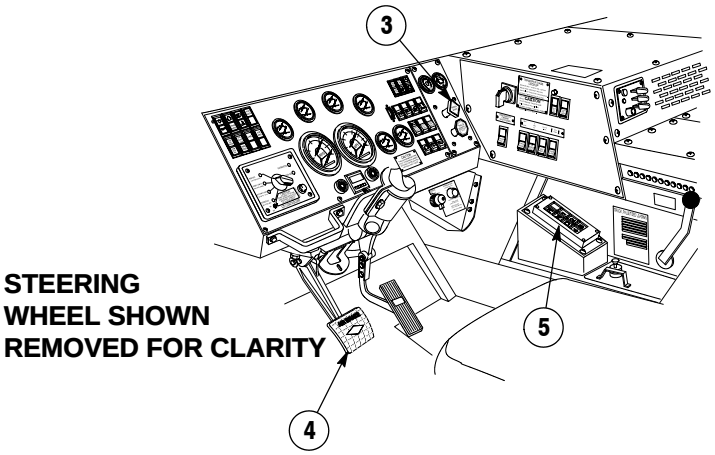
- To get container lock handle to rotate, it may be necessary to loosen handnut.
- There are two lower container locks. Right side shown.
- After tightening handnut, it may be necessary to loosen handnut slightly to align tab with handle lock plate.
- Ensure lower container lock handle is secured in slot on handle lock plate.

(35) Hold handle lock plate (17) and rotate lower container lock handle (18) up in the locked position.

(36) Turn handnut (23) clockwise and tighten stem (24).

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





NOTE

Ensure tab on handnut faces up.

(37) Lower handle lock plate (17) over lower container lock handle (18) and handnut (23) tab.

(38) Repeat Steps (35) through (37) for left side.

(39) Set the transmission range selector (5) in Neutral (N), push in parking brake knob (3) to release parking brakes and release service brake pedal (4).

WARNING

When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

CAUTION

- If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should notify supervisor if it appears payload is unevenly distributed in container or if container load exceeds 35,000 lbs. (15,890 kg). If any of these conditions exist, payload must be redistributed or reduced or damage to equipment may result.

- Load must be evenly distributed in the container. Uneven load distribution may cause the LHS overload indicator to give false signals and cause the LHS to operate incorrectly. Damage to equipment may result.

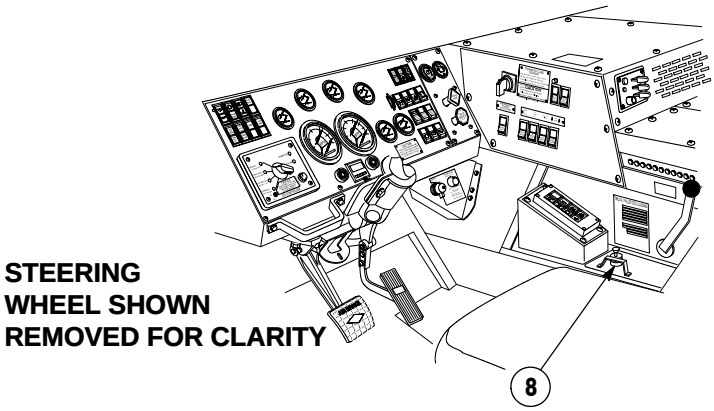
- If LHS overload lamp illuminates and normal operation has stopped, return load to original position and notify supervisor to have payload redistributed or weight reduced. Failure to comply may result in damage to equipment.

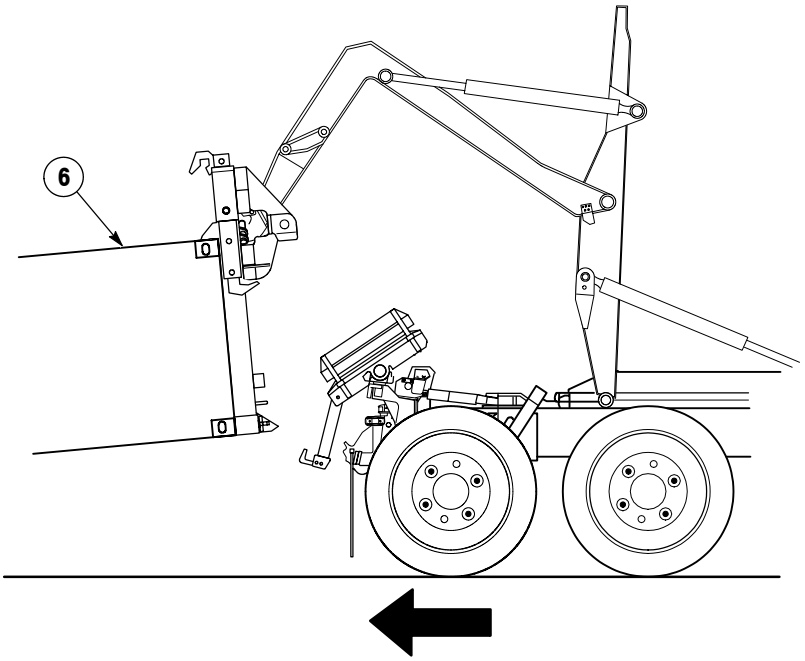
- Ensure parking brake is not applied before starting load sequence or damage to equipment may occur.

NOTE

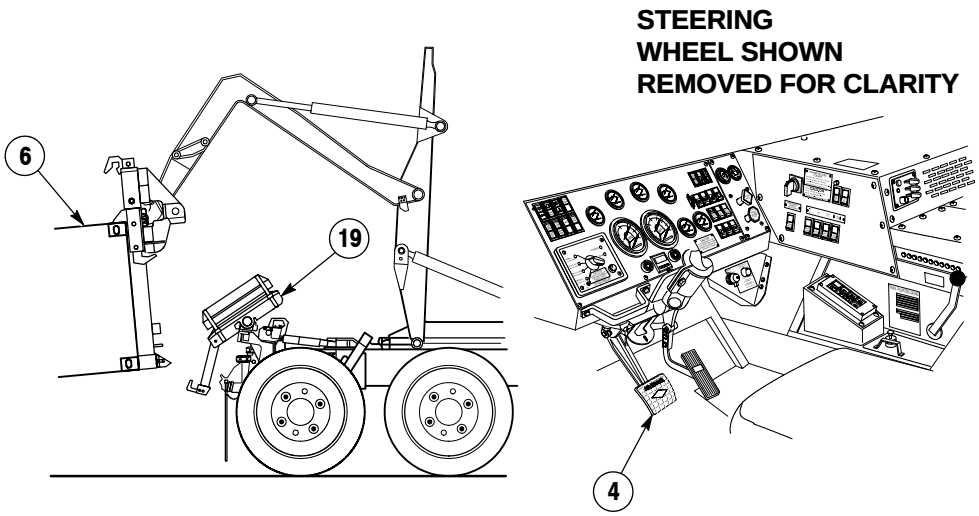
- The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.
- If container is extremely light or empty, it may be necessary to place transmission range selector to Reverse (R) and allow truck to roll under container.
- If container is not centered, and transit locks can not be installed and pinned, repeat Steps (39) through (47) to reposition container.

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





(40) Move joystick (8) to LOAD, allowing truck to be pulled under container (6).



WARNING

Ensure that container has contacted rear sliders correctly and is between guides. Failure to comply may result in serious injury or death to personnel and damage to equipment.

CAUTION

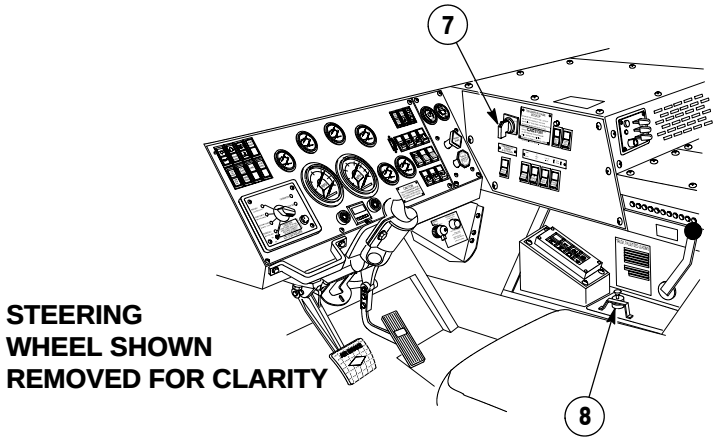
Reduce engine speed to idle before container contacts rear sliders or damage to equipment may result.

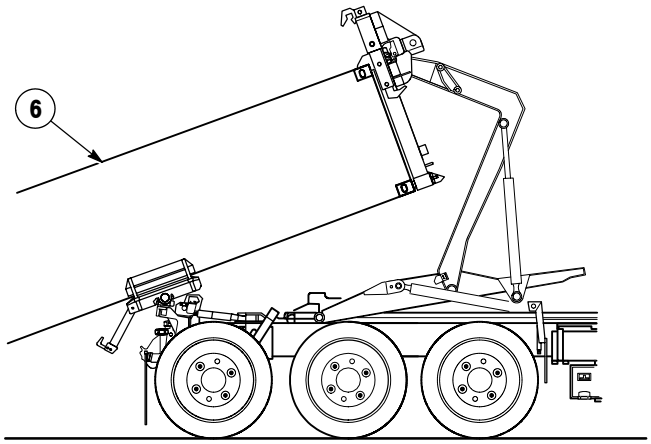
NOTE

- LHS overload lamp may illuminate when lifting container from unusual conditions.
- As load is lifted, truck will be pulled under container. Some steering wheel adjustment may have to be made to ensure that container contacts rear sliders correctly and is between guides.

(41) As container (6) contacts rear sliders (19), reduce engine speed to idle and apply service brake pedal (4).

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





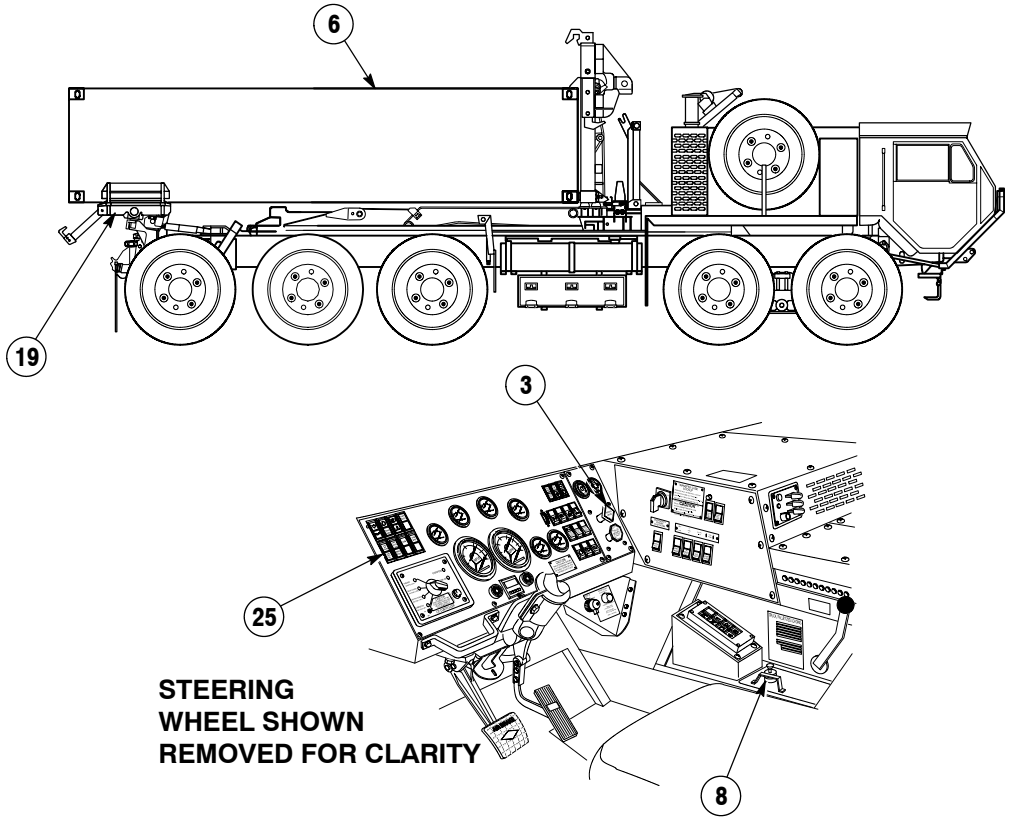
NOTE

If container is being loaded in soft soil conditions, perform Steps (42) through (44).

(42) Release joystick (8). Set hydraulic selector switch (7) to MAN H.A.

(43) Move joystick (8) to LOAD until container (6) is approximately 2 ft. (0.61 m) off the ground. Release joystick.

(44) Set hydraulic selector switch (7) to AUTO. Resume normal AUTO operations.



NOTE

Engine speed may be increased and decreased to ease loading.

(45) After container (6) contacts rear sliders (19), increase engine speed to approximately 1500 rpm until container is almost loaded. Reduce engine speed to idle.

CAUTION

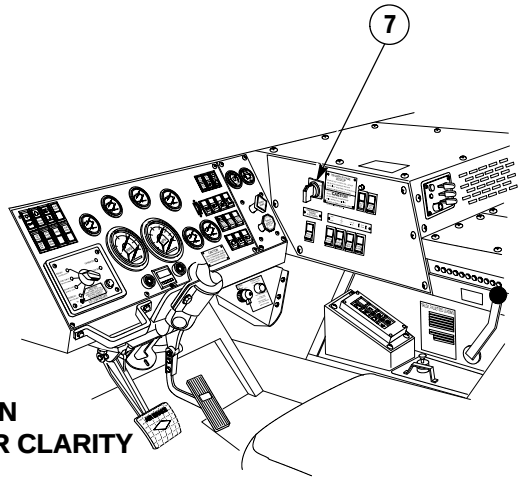
After loading operations using CHU kit and container and the LHS NO TRANSIT indicator goes off, operator must release the joystick from the LOAD position. Failure to release the joystick may cause LHS OVER LOAD indicator to illuminate and hydraulic cylinders to remain active, forcing a temporary bow in the LHS frame, resulting in contact between LHS and container.

(46) Continue loading until container (6) is fully loaded and LHS NO TRANS lamp (25) goes out.

(47) Release joystick (8).

(48) Pull out parking brake knob (3) to apply parking brake.

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



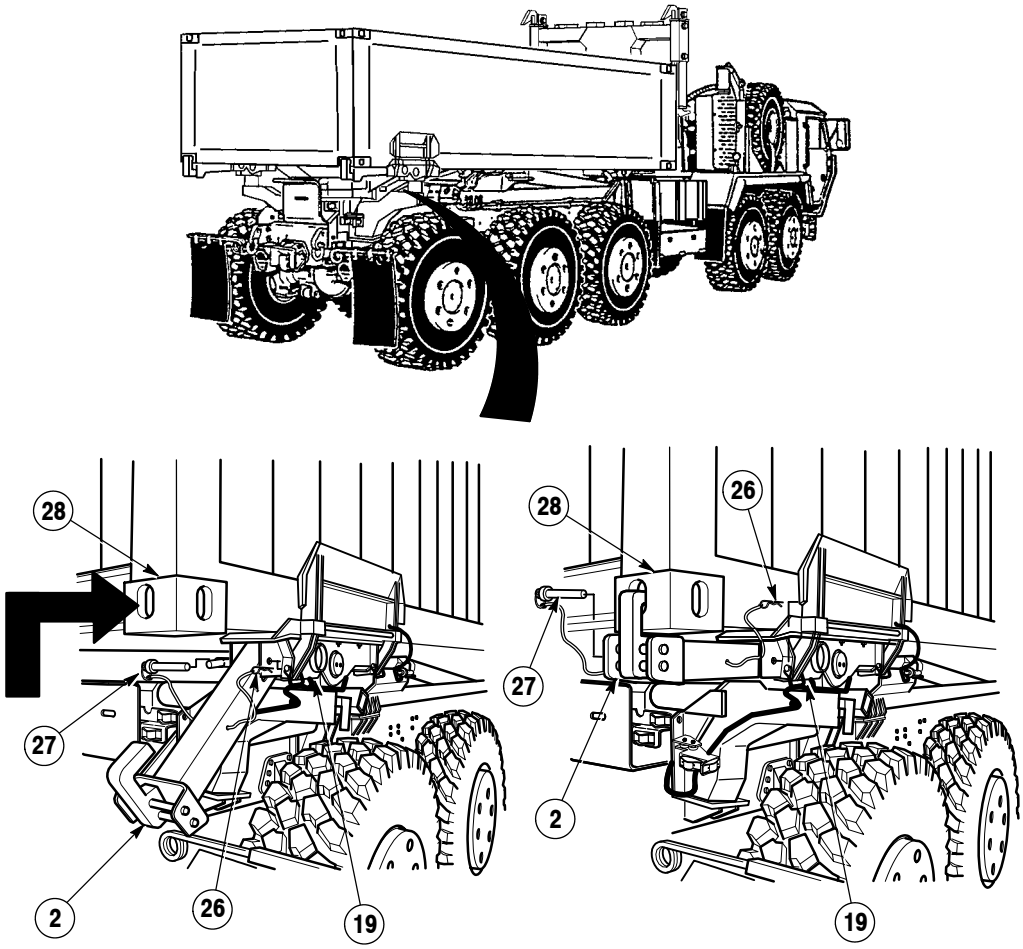
STEERING WHEEL SHOWN REMOVED FOR CLARITY

CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.

(49) Turn hydraulic selector switch (7) to OFF.

(50) Shut off engine (Para 2-23).



NOTE

- There are two rear container locks. Right side shown.
- If container is not centered and transit locks cannot be installed and pinned, repeat Steps (40) through (50) to reposition container.

(51) Support rear container lock (2) and remove lock pin (26) and pin (27).

(52) Rotate rear container lock (2) up and position into container lower rear corner casting (28).

(53) Install pin (27) and lock pin (26) in rear container lock (2) and slider (19).

(54) Perform Steps (51) through (53) for left side.

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

b. Unloading

WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a container. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS, lifting frame, and container or serious injury or death may result.

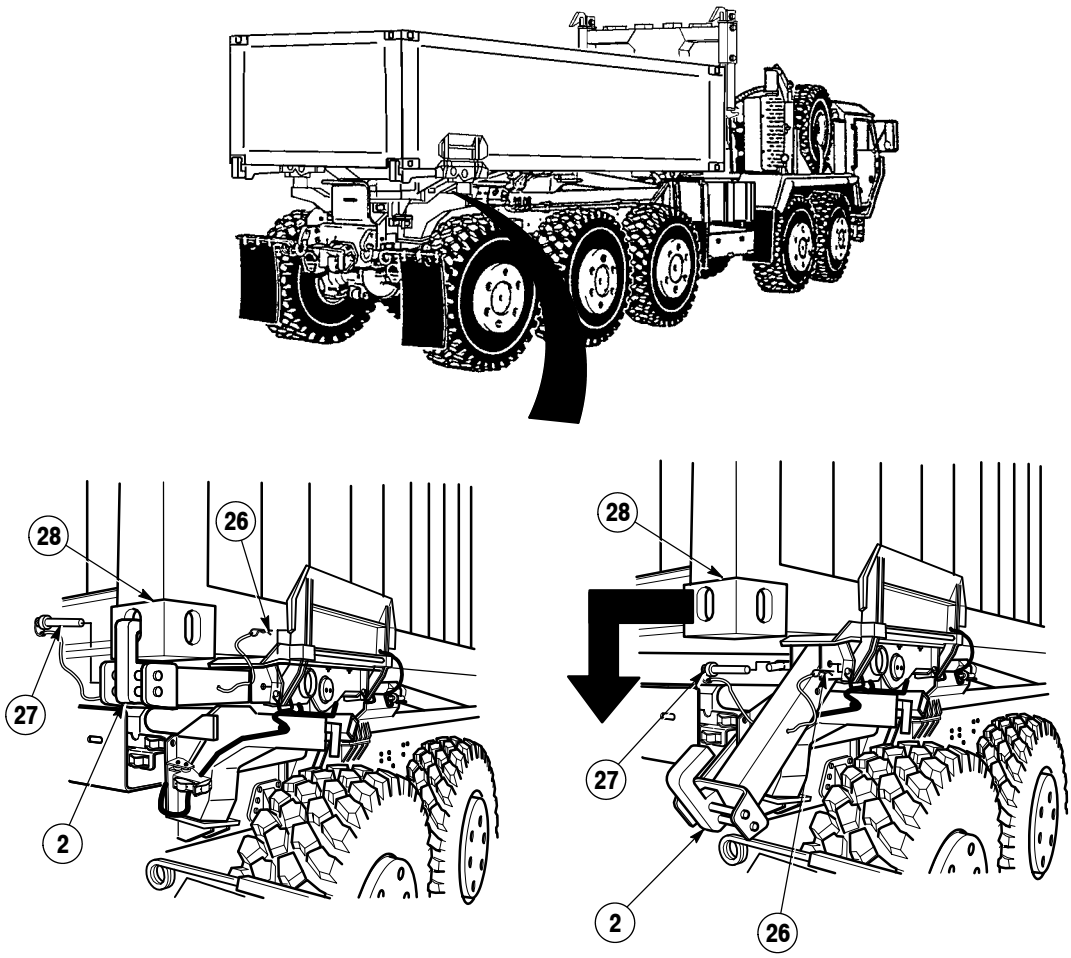
CAUTION

- Check that ground conditions where container will be placed can support the container weight or damage to the container, lifting frame or LHS may result.
- Use extreme caution when loading/unloading container with side doors. Container must remain centered during loading/ unloading or flanges on side may be damaged and/or door hinges may make hard contact with guides.

NOTE

For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-loading a Flatrack in Auto Mode”.

(1) Check area for operating room at front and rear of truck. Check overhead clearance and ground conditions.



NOTE

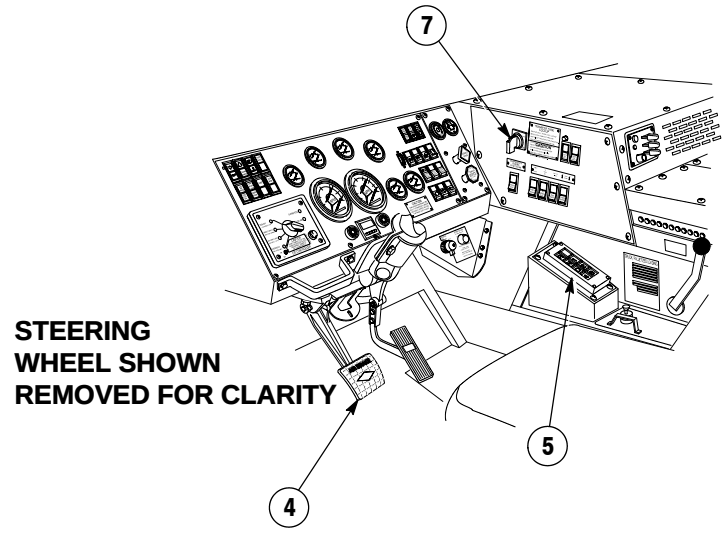
There are two rear container locks. Right side shown.

(2) Remove lock pin (26), pin (27) and rear container lock (2) from lower rear corner casting (28).

(3) Rotate rear container lock (2) in down position and install pin (27) and lock pin (26).

(4) Perform Steps (2) and (3) for left side.

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



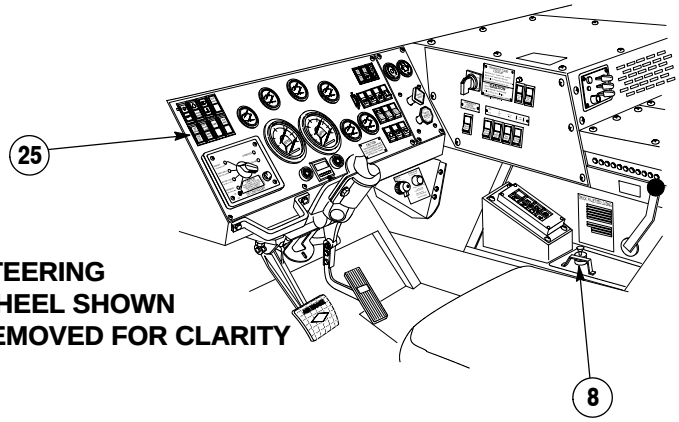
(5) Start engine (Para 2-15).

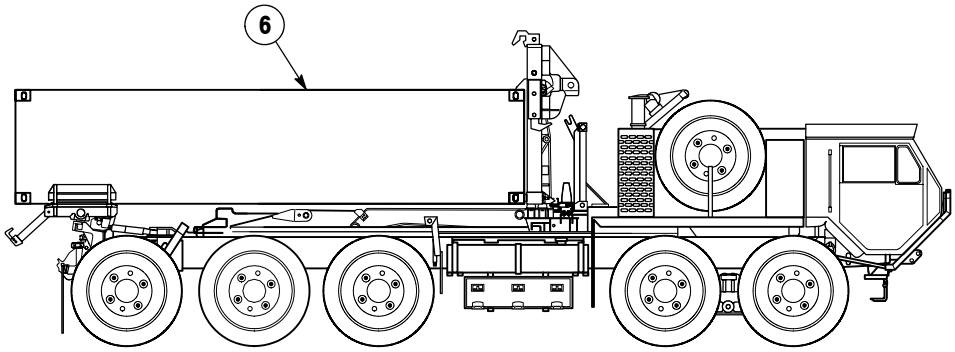
(6) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(7) Turn hydraulic selector switch (7) to AUTO.





WARNING

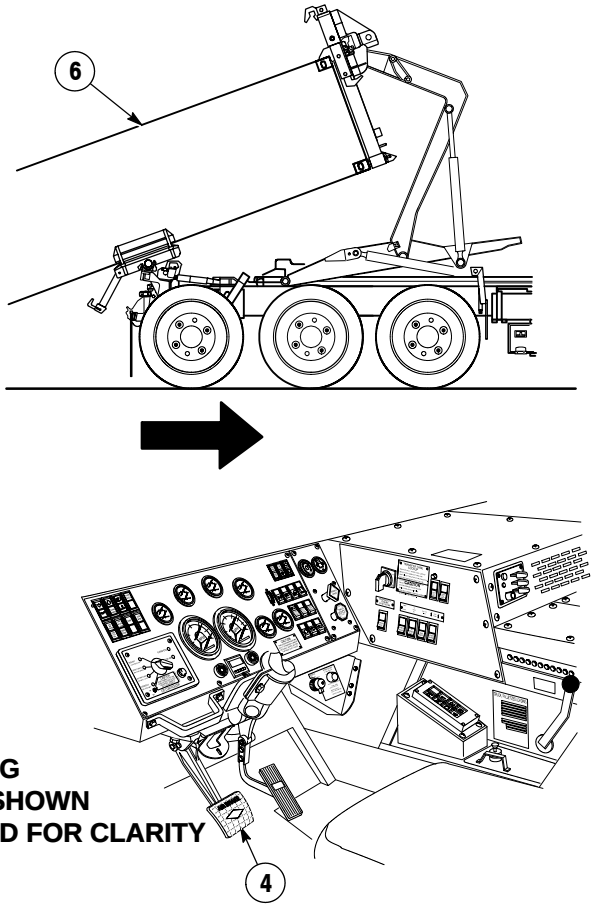
When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

NOTE

LHS will not operate and unload if rear container locks are engaged.

(8) Move joystick (8) to UNLOAD. Container (6) will start to move rearward. LHS NO TRANS lamp (25) will illuminate. Maintain engine speed at idle until front of container raises approximately 12 in. (30 cm).

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

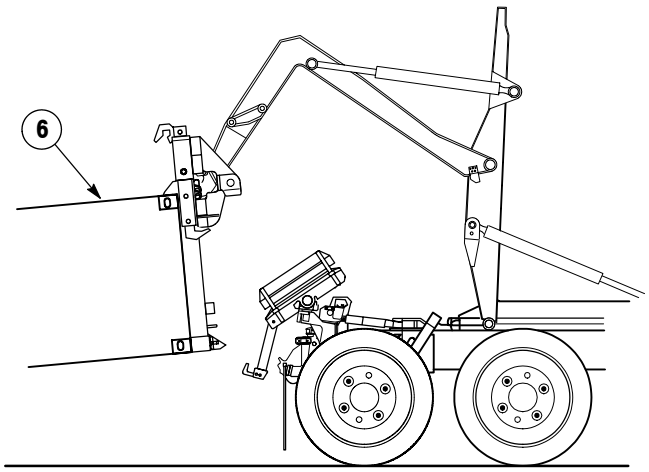


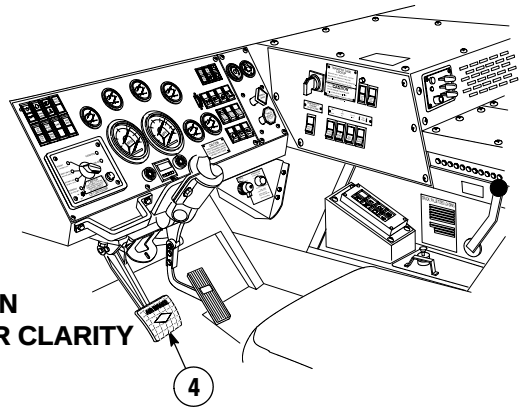
NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

(9) Continue to unload container (6) until back edge of container touches ground.

(10) Release service brake pedal (4) and allow container (6) to push truck forward from under container.





STEERING WHEEL SHOWN REMOVED FOR CLARITY

(11) As front of container (6) approaches within approximately 8 in. (20.3 cm) of ground, decrease engine speed to idle and apply service brake pedal (4).

CAUTION

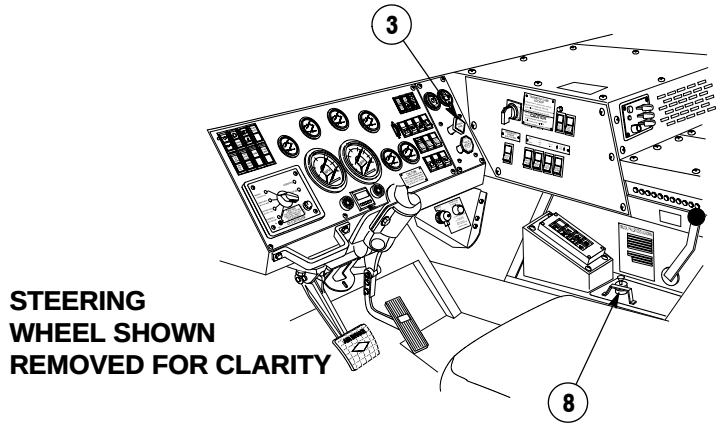
Once truck's rear suspension has been relieved of container load, do not continue in UNLOAD position as possibility of jacking up the rear of truck with hook arm may occur and damage to equipment may result.

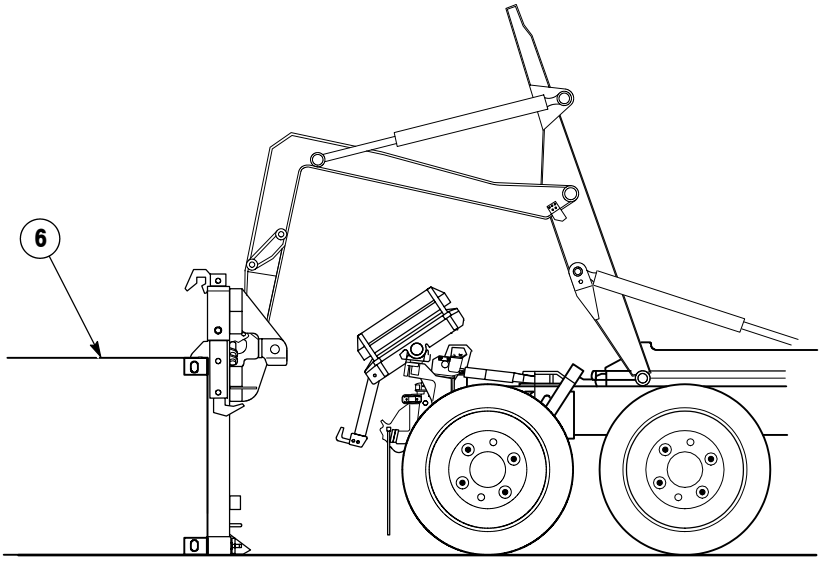
NOTE

If container is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) and allow truck to move out from under container.

(12) Continue unloading until bottom of container (6) is on ground and rear suspension is unloaded.

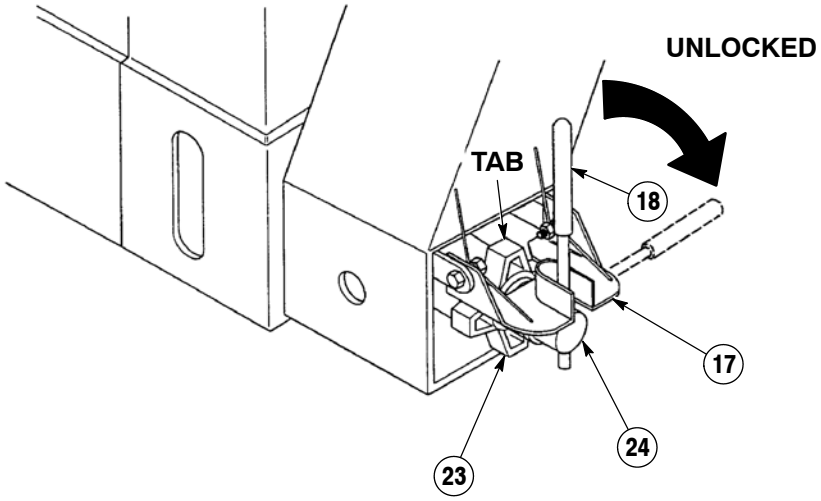
2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).





(13) Release joystick (8) when container (6) is resting on ground.

(14) Pull out parking brake knob (3) to apply parking brakes.



WARNING

Ensure that all tension has been relieved between LHS hook and lifting frame prior to unlocking lifting frame lower container locks. Stay clear of lifting frame when unlocking lifting frame lower container locks as lifting frame may separate from container unexpectedly. Failure to comply may result in serious injury or death to personnel.

NOTE

There are two lifting frame lower container locks. Right side shown.

(15) Raise handle lock plate (17) and turn handnut (23) counterclockwise and loosen stem (24).

NOTE

Ensure tab on handnut faces up.

(16) Rotate lower container lock handle (18) towards center of truck to unlocked position.

CAUTION

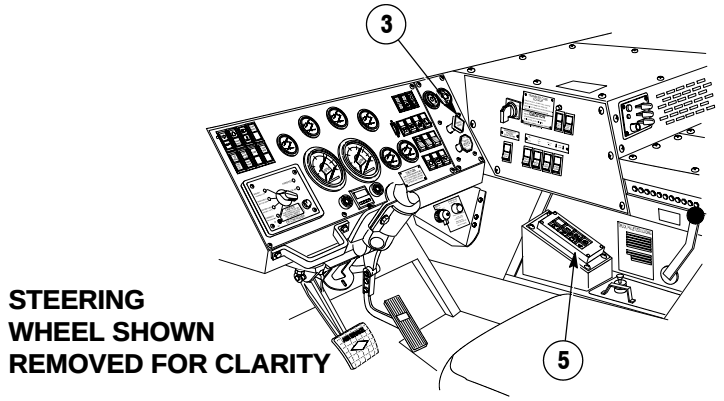
Handnut must be tightened clockwise to tighten stem. Failure to tighten stem may cause damage to equipment during next container loading procedure.

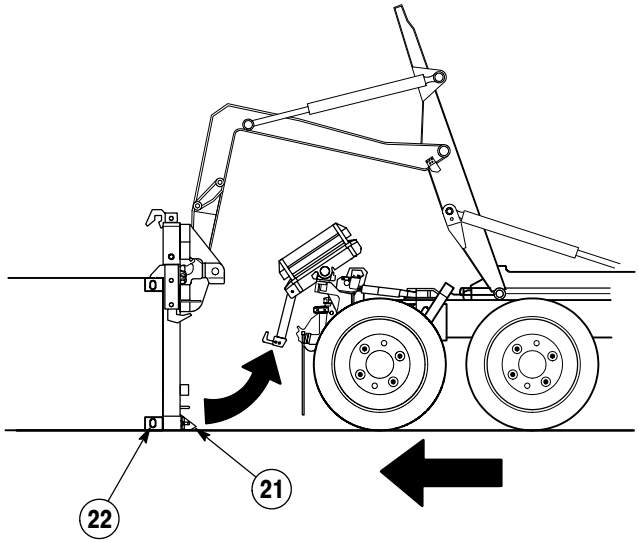
(17) Turn handnut (23) clockwise and tighten stem (24).

(18) Release handle lock plate (17) over container lock handle and handnut (23) tab.

(19) Repeat Steps (15) through (18) for left side.

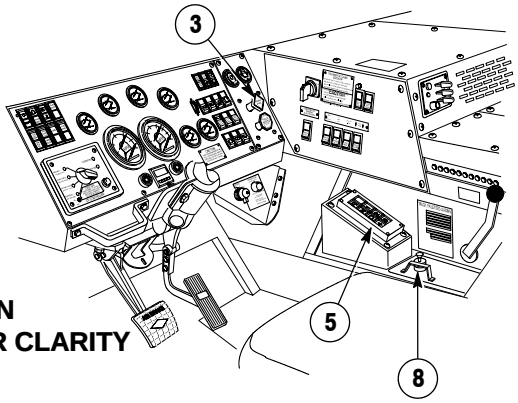
2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



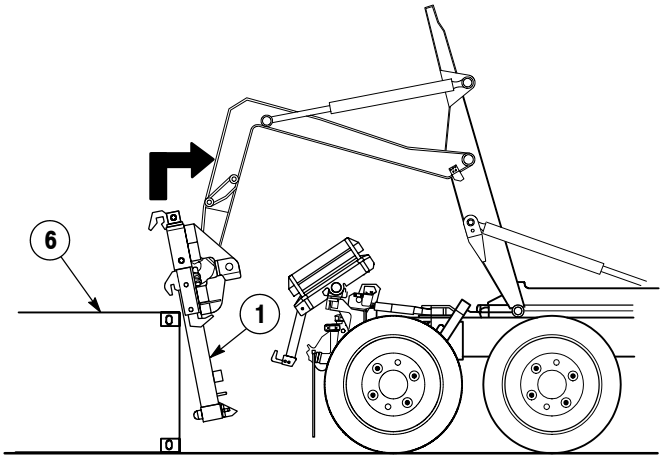


(20) Push in parking brake knob (3) and release parking brakes. Set transmission range selector (5) to Reverse (R).

(21) Move truck backward until lower container locks (21) disengage from lower front corner castings (22) approximately 4 to 6 in. (10 to 15 cm).



STEERING WHEEL SHOWN REMOVED FOR CLARITY



CAUTION

Ensure that the half height container front hooks are completely disengaged and do not hang up in container upper corner castings when retracting LHS. Failure to comply may result in damage to the half height container front hooks and/or container.

NOTE

It may be necessary to move the truck forward or backward slightly to get the half height container front hooks to disengage.

(22) Move joystick (8) to LOAD position until lifting frame (1) is disengaged from container (6).

(23) Release joystick (8).

(24) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.

2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

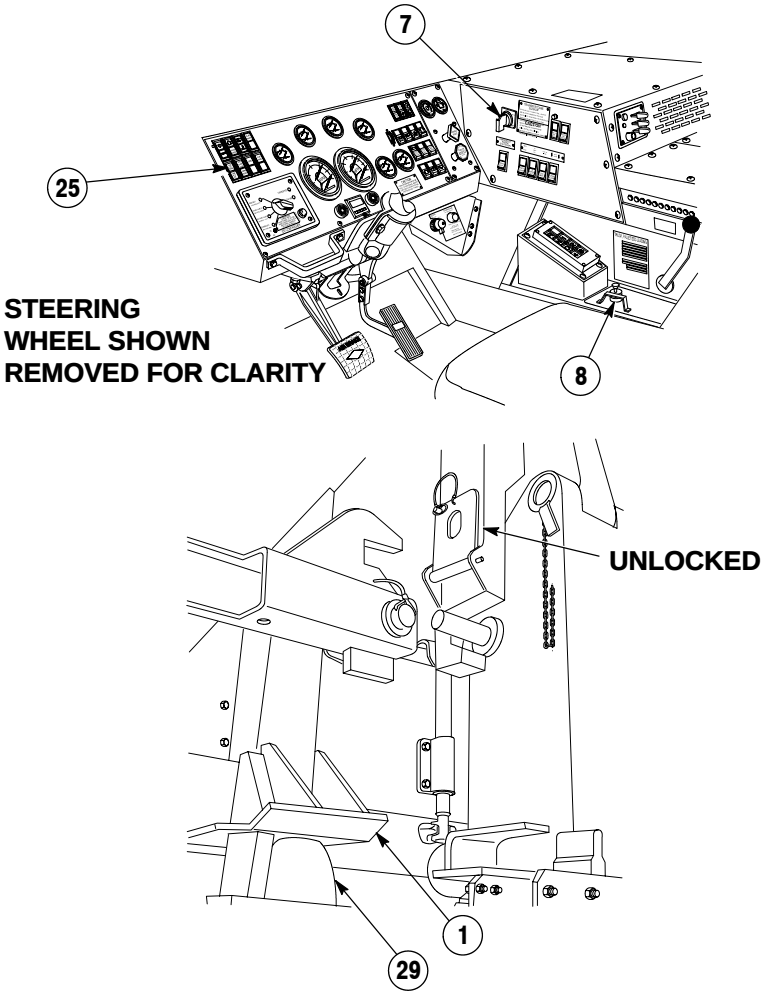
CAUTION

- On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Switch hydraulic selector to MAN M.F. and retract the mainframe until the lifting frame clears the rear sliders. Return hydraulic selector to AUTO and continue (LOAD) operation. Failure to comply may result in damage to equipment.

- Never drive with LHS NO TRANS lamp illuminated. An illuminated lamp means that the LHS is not fully stowed. Failure to comply may result in damage to equipment.

NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.



(25) Move joystick (8) to LOAD position until LHS is fully retracted and lifting frame (1) is positioned on bumper supports (29). LHS NO TRANS lamp (25) will go out indicating LHS is in transport position.

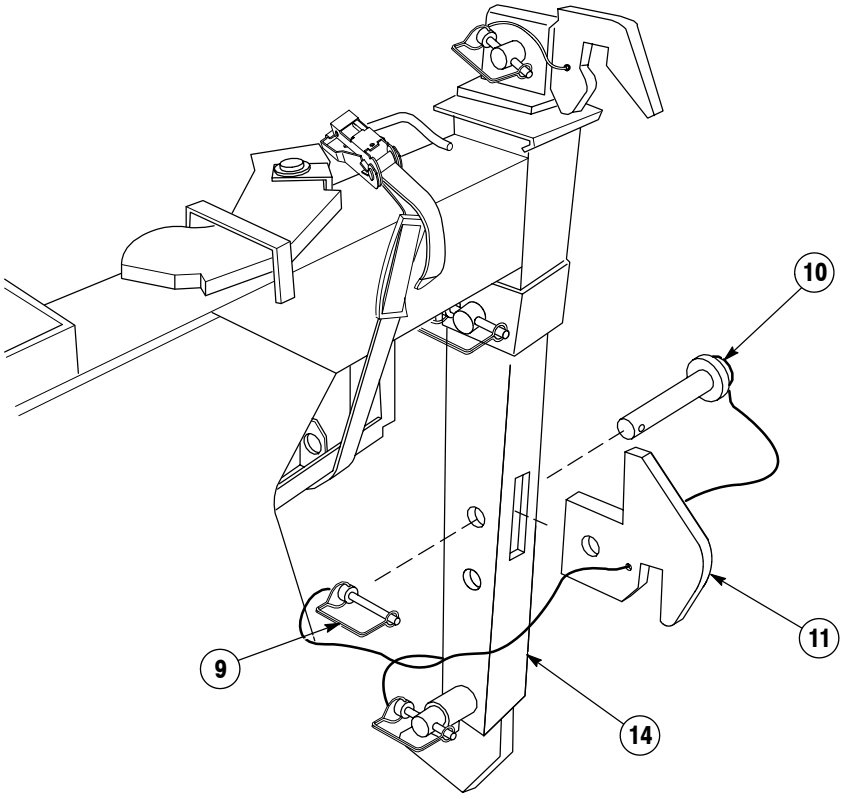
(26) Release joystick (8).

CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.

(27) Turn hydraulic selector switch (7) to OFF.

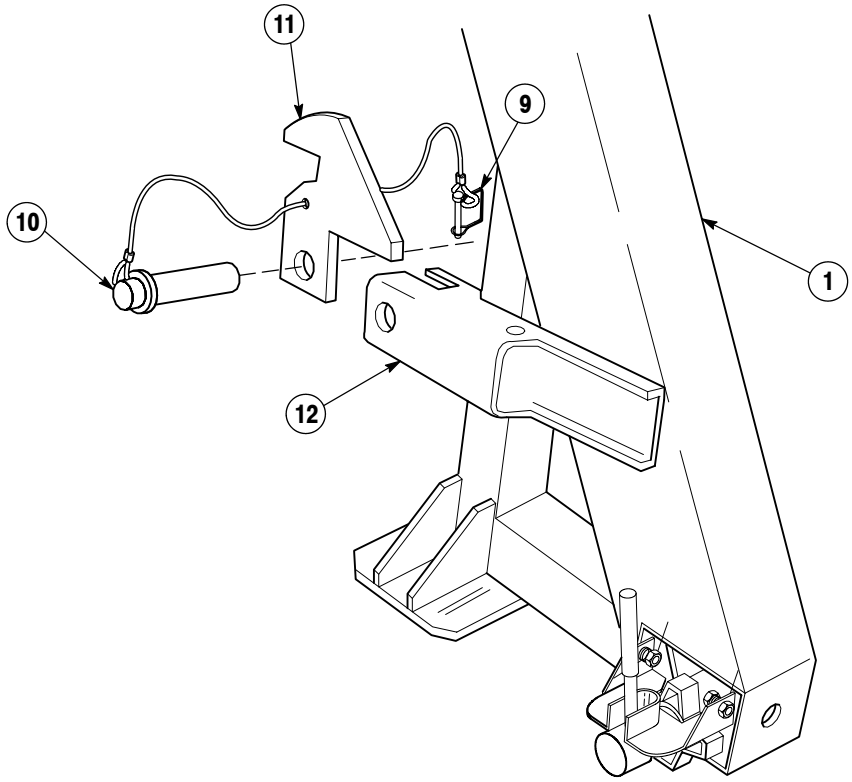
2-36. LOADING AND UNLOADING CONTAINER (48 INCHES (122 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

- Perform Steps (28) through (30) if CHU operation for 48 in. containers have been completed.
- There are two slide arms and half height container front hooks. Right side shown.

(28) Remove pin lock (9), pin (10) and half height container front hook (11) from slide arm (14).

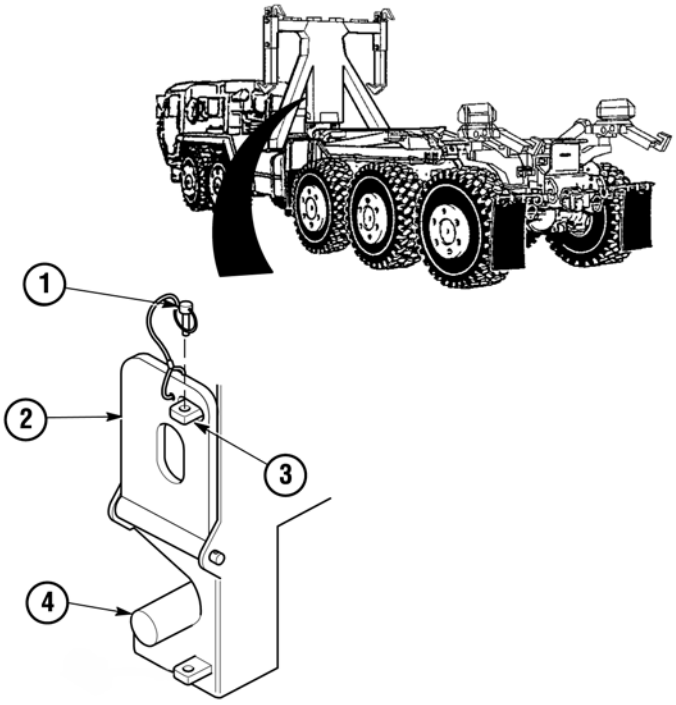


(29) Install half height container front hook (11), pin (10) and lock pin (9) in stowage bracket (12) on lifting frame (1).

(30) Repeat Steps (28) and (29) for left hand side.

2-37. TRANSPORTING LIFTING FRAME WITH PLS LHS WITHOUT CONTAINER.

a. Lifting Frame in Locked Position (Transport Without Container)



WARNING

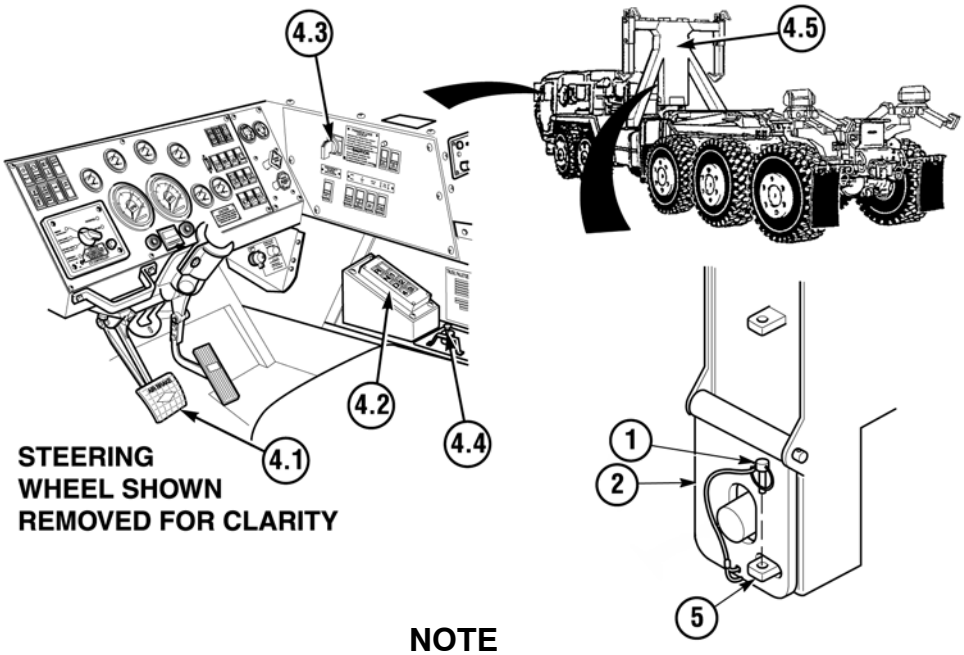
Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

NOTE

There are two locking plates on lifting frame. Both locking plates are locked and unlocked the same way. Left side is shown.

(1) Remove quick release pin (1) from locking plate (2) and bracket (3).

(2) Rotate locking plate (2) down to engage LHS hook arm pivot pin (4).



NOTE

- If locking plate does not engage LHS hook arm pivot pin, raising front lift adapter approximately 2 in. (5.08 cm) will allow clearance for locking plate to engage hook arm pivot pin.
- Perform Steps (2.1) through (2.5) if front lift adapter needs to be raised.

(2.1) Start engine (Para 2-15).

(2.2) Apply service brake pedal (4.1) and set transmission range selector (4.2) to N (Neutral).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(2.3) Turn hydraulic selector switch (4.3) to AUTO.

(2.4) Move joystick (4.4) to UNLOAD position, and raise front lift adapter (4.5) approximately 2 in. (5.08 cm).

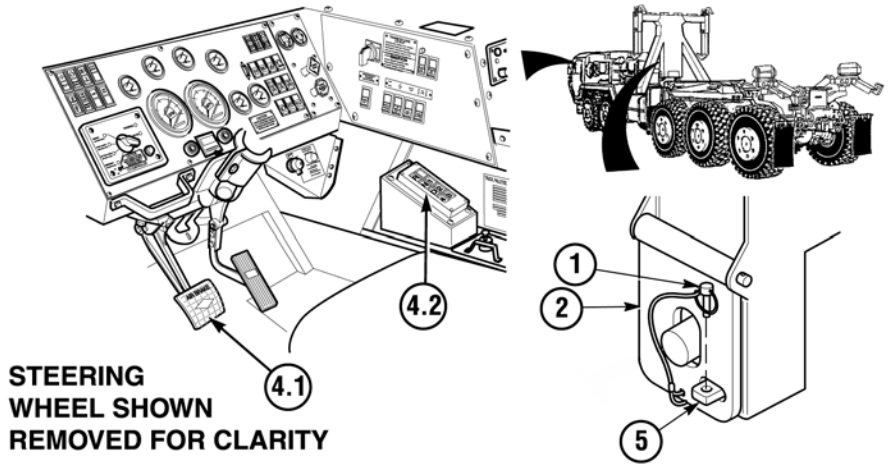
(2.5) Shut off engine (Para 2-23).

(3) Install quick release pin (1) in locking plate (2) and bracket (5).

(4) Repeat Steps (1) through (3) for right side.

2-37. TRANSPORTING LIFTING FRAME WITH PLS LHS WITHOUT CONTAINER (CONT).

b. Lifting Frame in Unlocked Position (Load and Unload Container, Install or Remove Lifting Frame from LHS).



WARNING

Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

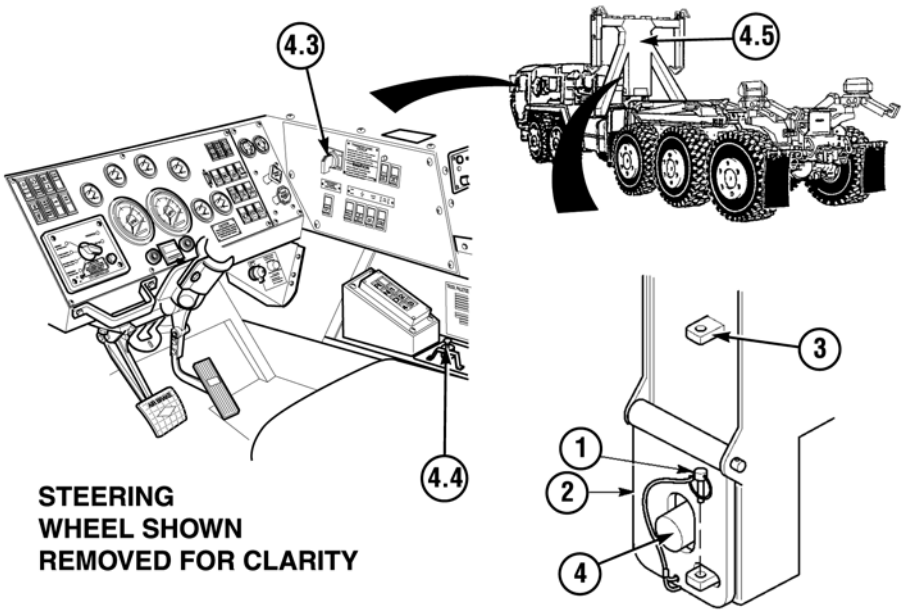
NOTE

- There are two locking plates on lifting frame. Both locking plates are locked and unlocked the same way. Left side is shown.
- If locking plate does not disengage LHS hook arm pivot pin, raising front lift adapter approximately 2 in. (5.08 cm) will allow clearance for locking plate to clear LHS hook arm pivot pin.
- Perform Steps (1.1) through (1.5) if front lift adapter needs to be raised.

(1) Remove quick release pin (1) from locking plate (2) and bracket (5).

(1.1) Start engine (Para 2-15).

(1.2) Apply service brake pedal (4.1) and set transmission range selector (4.2) to N (Neutral).



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(1.3) Turn hydraulic selector switch (4.3) to AUTO.

(1.4) Move joystick (4.4) to UNLOAD position, and raise front lift adapter (4.5) approximately 2 in. (5.08 cm).

(1.5) Shut off engine (Para 2-23).

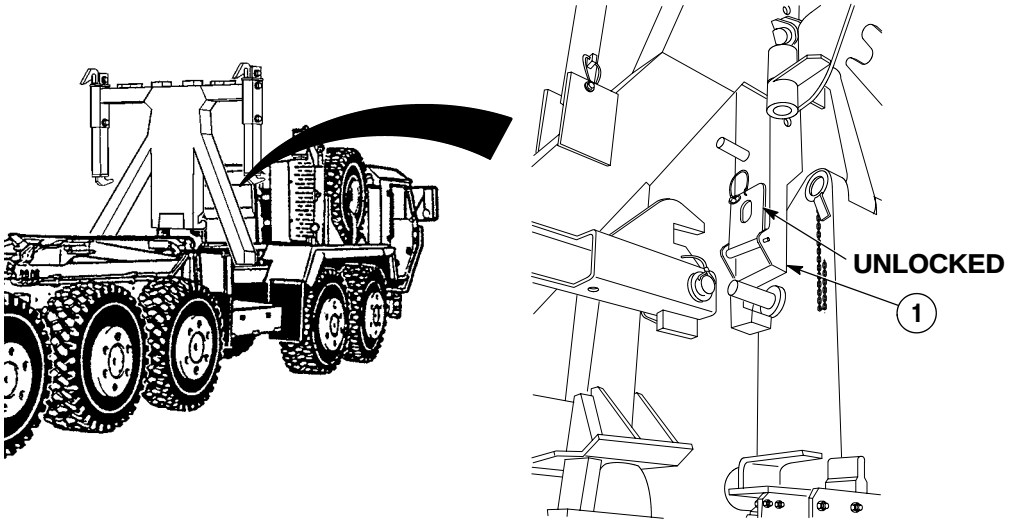
(2) Rotate locking plate (2) up to disengage LHS hook arm pivot pin (4).

(3) Install quick release pin (1) in locking plate (2) and bracket (3).

(4) Repeat Steps (1) through (3) for right side.

2-38. RETURNING PLS TRUCK TO FLATRACK MODE.

a. Preparation for Flatrack Mode.



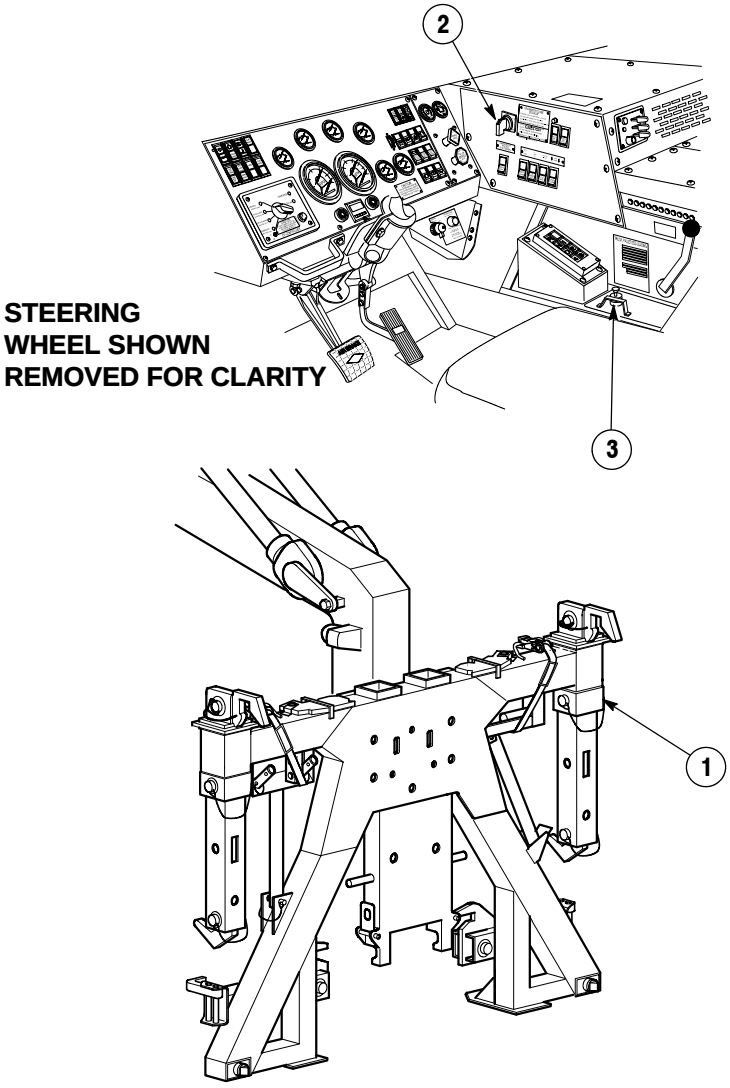
WARNING

- Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.
- Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.
- Lifting frame must be unloaded on a flat level surface. Failure to comply may result in lifting frame tipping over unexpectedly causing injury or death to personnel.

NOTE

Perform Step (1) if lifting frame is in locked position.

(1) Position lifting frame (1) in unlocked position (Para 2-37).



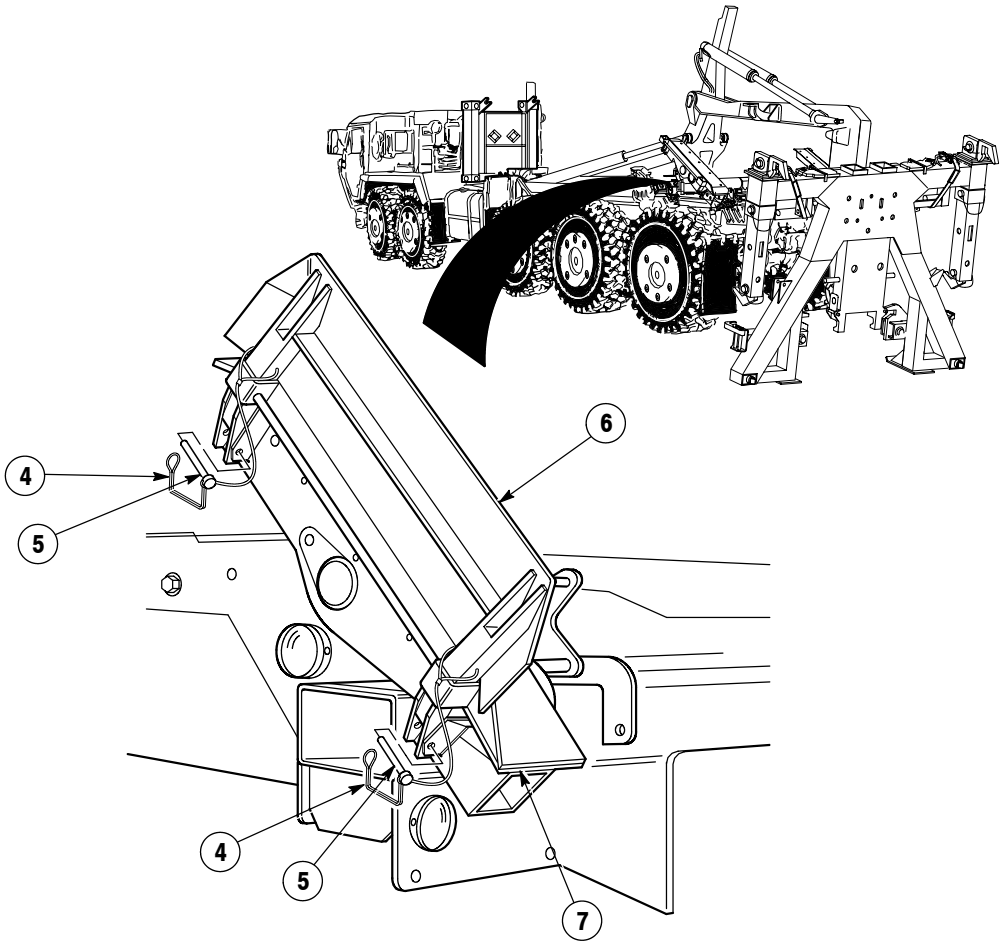
(2) Start engine (Para 2-15).

(3) Turn hydraulic selector switch (2) to AUTO.

(4) Move joystick (3) to UNLOAD until lifting frame (1) is approximately 12 in. (30 cm) off of ground.

(5) Shut off engine (Para 2-23).

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).

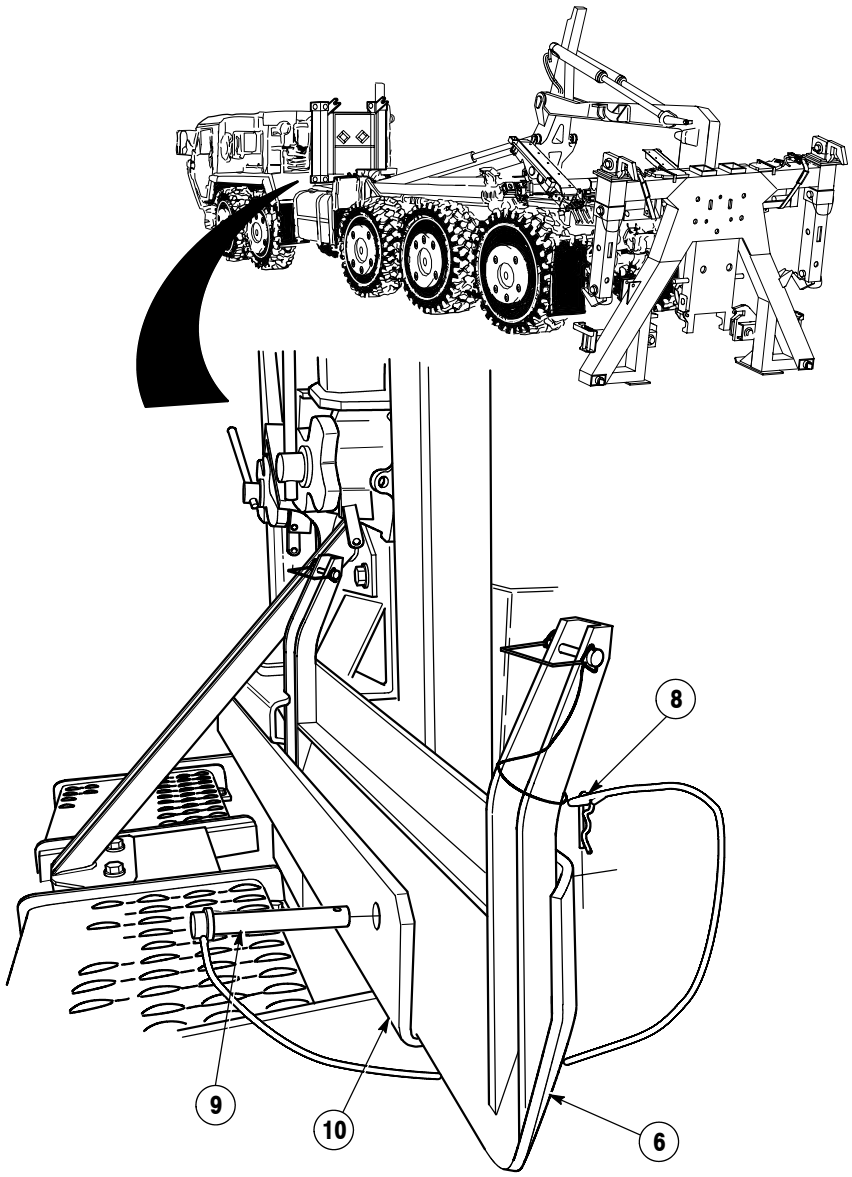


NOTE

There are two guides and bumper supports on lifting frame. Left side is shown.

(6) Remove two lock pins (4), pins (5) and container guide (6) from slider (7).

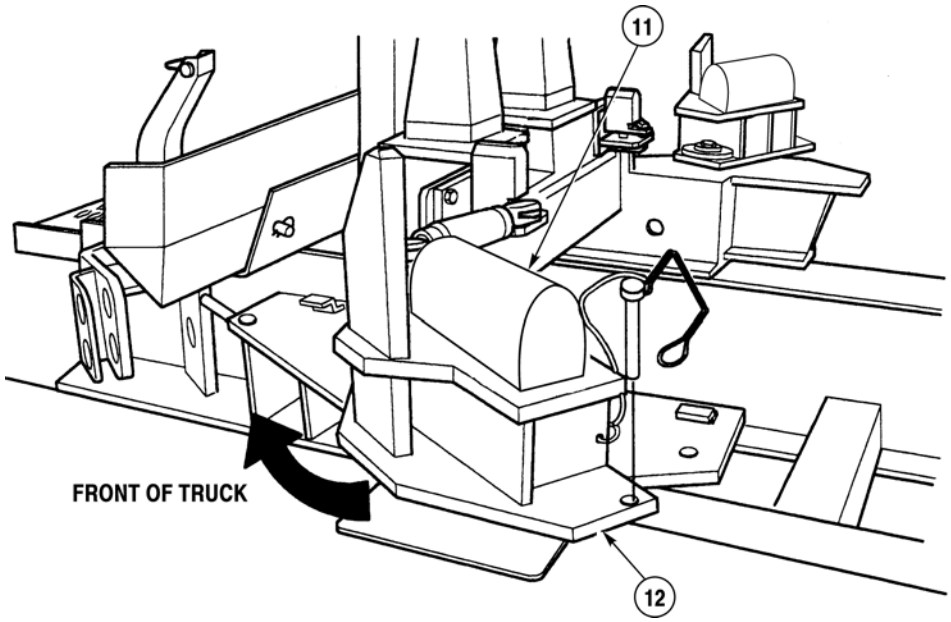
(7) Install two pins (5) and lock pins (4) in container guide (6).



(8) Remove lock pin (8) and pin (9) from stowage bracket (10).

(9) Position container guide (6) in stowage bracket (10) with pin (9) and lock pin (8).

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).



NOTE

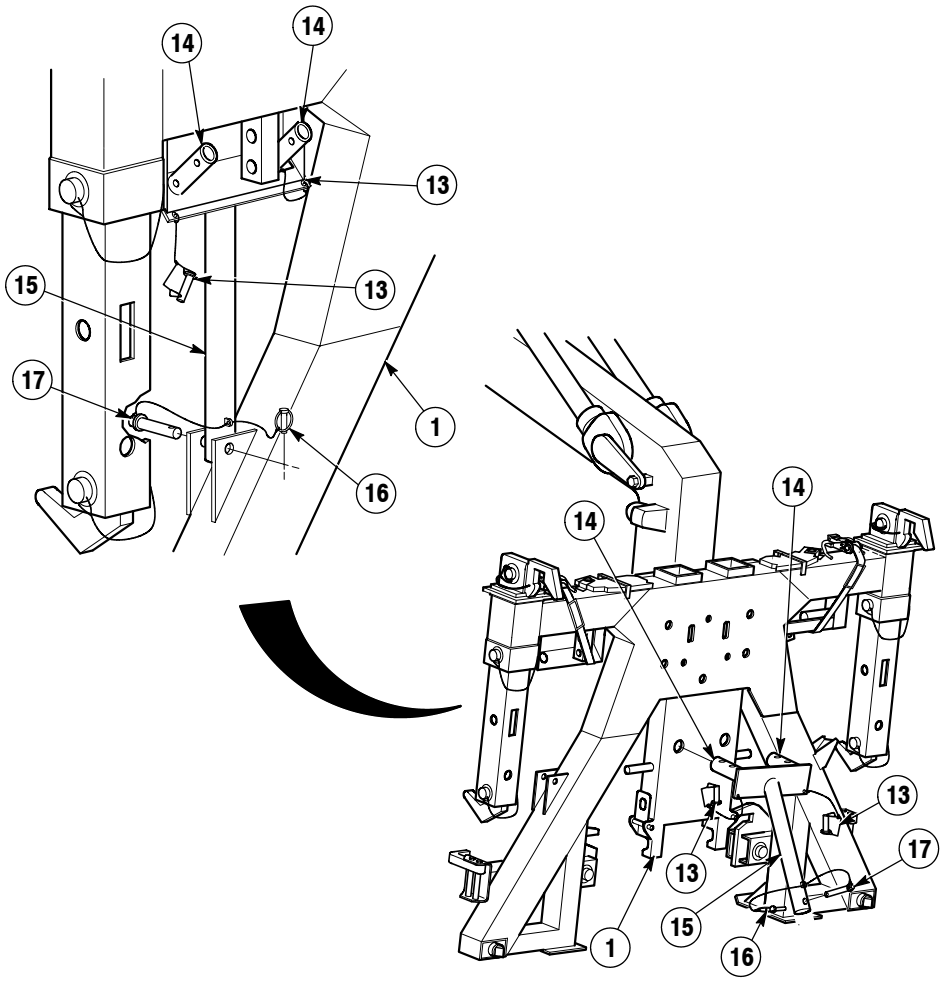
Bumper support is in flatrack mode when bumper support is positioned completely over bracket, toward front of truck.

(10) Remove lock pin (11) from bumper support (12).

(11) Rotate bumper support (12) approximately 180 degrees toward front of truck.

(12) Install lock pin (11) in bumper support (12).

(13) Repeat Steps (6) through (12) for right side.



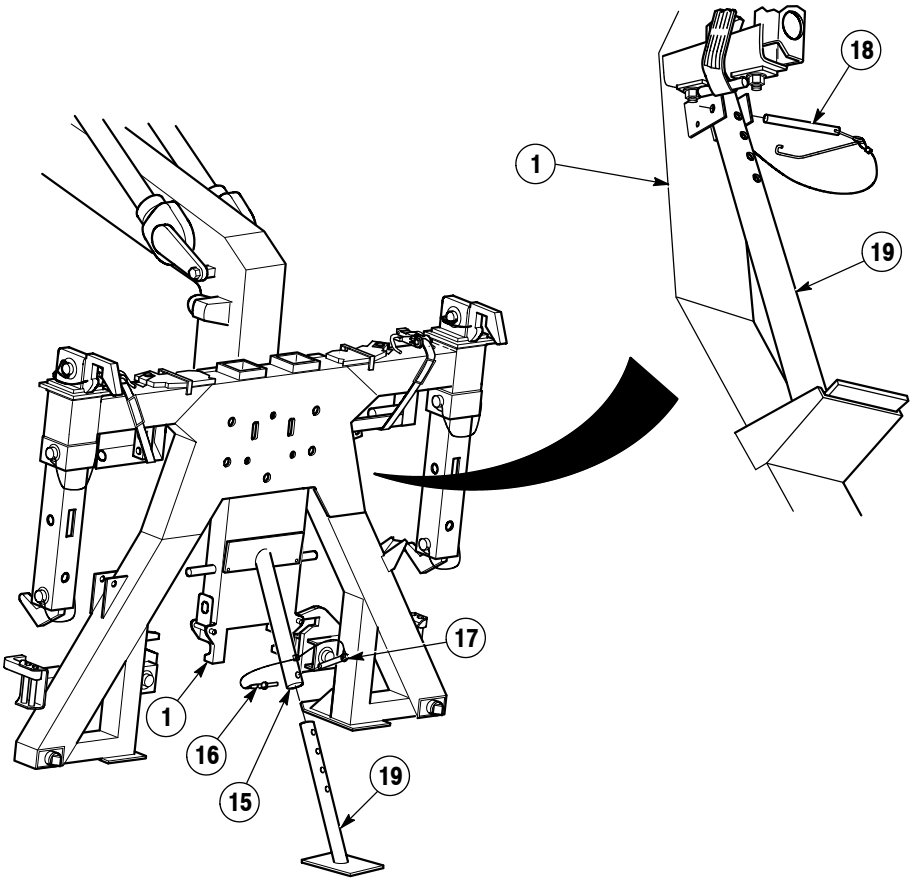
(14) Remove two lock pins (13) from pins (14) and upper support leg (15).

(15) Remove lock pin (16), pin (17) and upper support leg (15) from stowage bracket on lifting frame (1).

(16) Position two pins (14) on upper support leg (15) through two lower holes on lifting frame (1).

(17) Install two lock pins (13) in pins (14) on upper support leg (15) and front side of lifting frame (1).

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).



(18) Remove lock pin (18) and lower support leg (19) from stowage bracket on lifting frame (1).

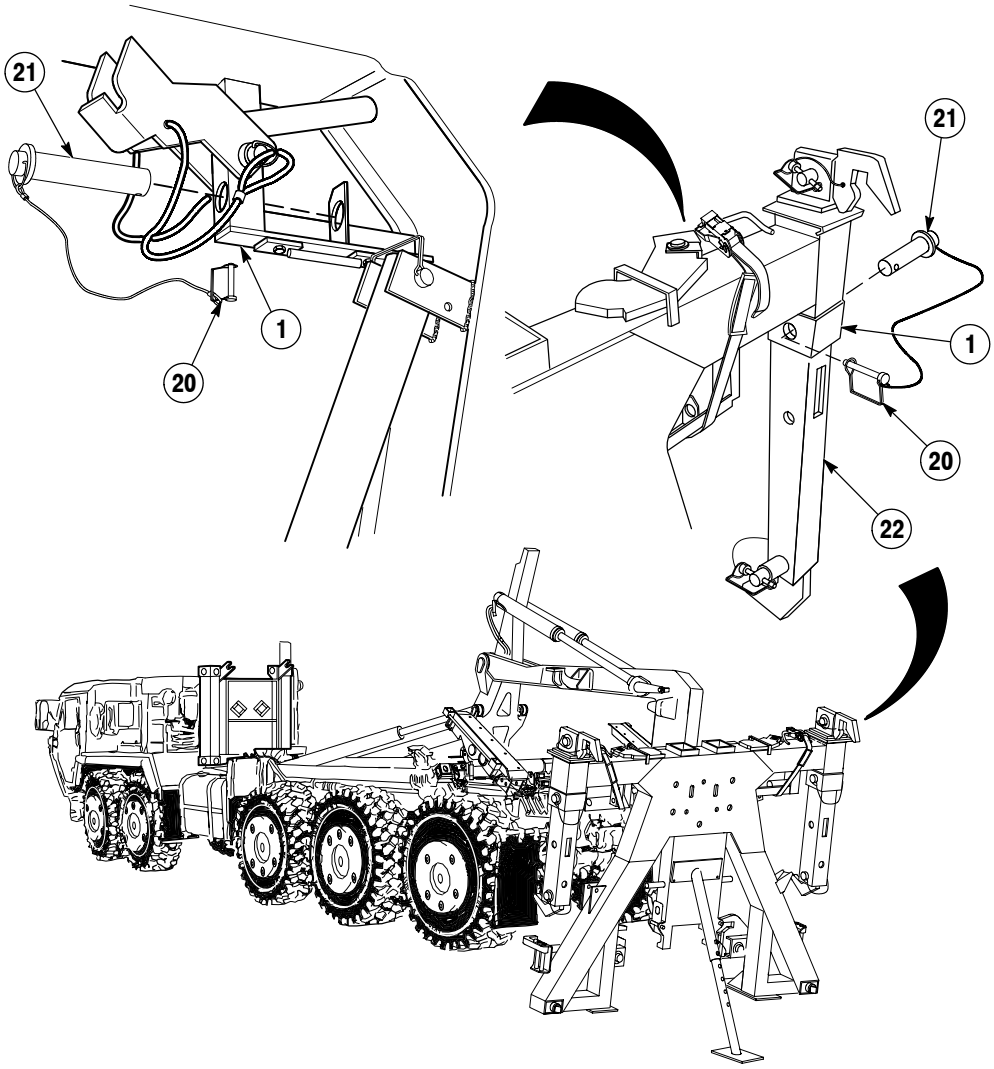
(19) Position lower support leg (19) in upper support leg (15).

NOTE

Other support leg pin hole positions may be used if ground is uneven.

(20) Align hole in upper support leg (15) with second hole from bottom on lower support leg (19) and install pin (17) and lock pin (16).

(21) Install lock pin (18) in stowage bracket on lifting frame (1).



NOTE

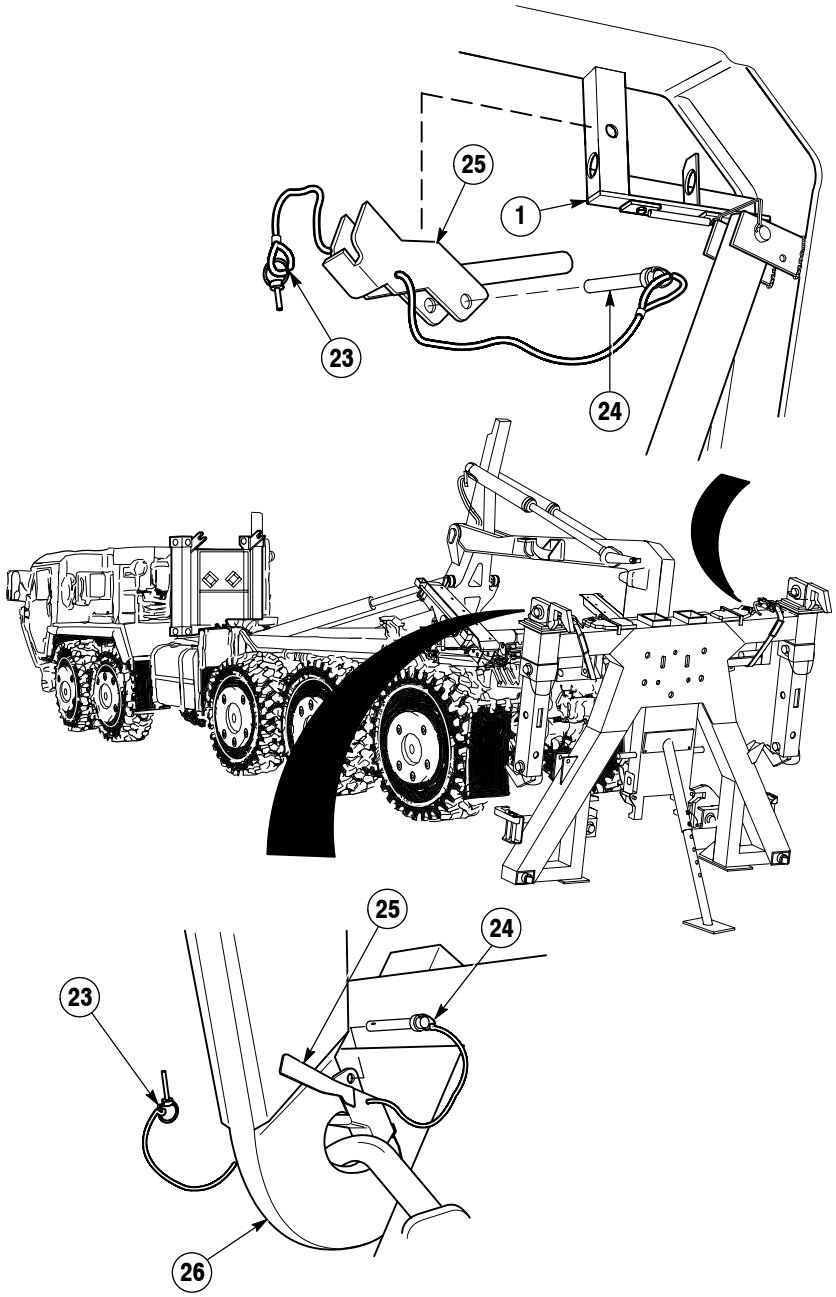
There are two pins and lock pins on slide arm on lifting frame. Right side is shown.

(22) Remove lock pin (20) and pin (21) from stow position on lifting frame (1).

(23) Install pin (21) and lock pin (20) in lifting frame (1) and slide arm (22) in upper hole.

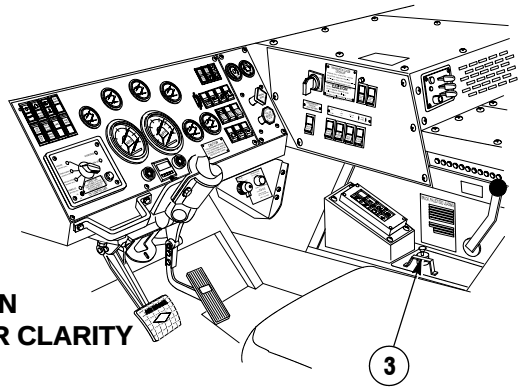
(24) Repeat Steps (22) and (23) for left side.

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).

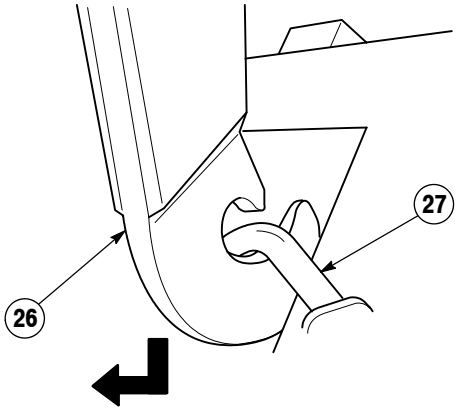


(25) Remove lock pin (23), pin (24) and bail bar lock (25) from hook (26).

(26) Install bail bar lock (25), pin (24) and lock pin (23) in stowage bracket on lifting frame (1).



STEERING WHEEL SHOWN REMOVED FOR CLARITY



NOTE

- To disengage LHS hook arm from lifting frame hook it may be necessary to cycle LHS to unload after driving ahead slightly.
- If ground is soft, jacking plate from truck BII or similar item may be positioned under support leg pad to prevent lifting frame from sinking in ground.

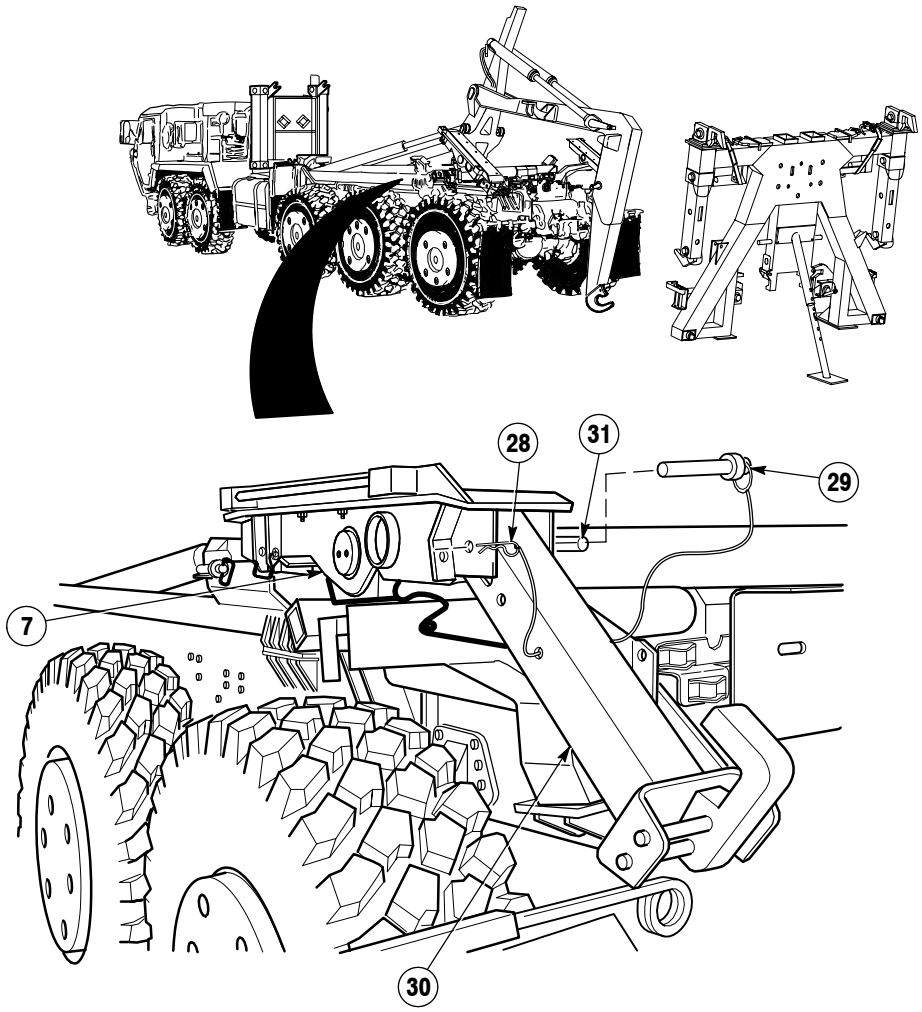
(27) Start engine (Para 2-15).

(28) Move joystick (3) to UNLOAD until LHS stops and hook (26) is below lifting frame hook bar (27).

(29) Drive truck ahead approximately 12 in. (30 cm).

(30) Shut off engine (Para 2-23).

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).



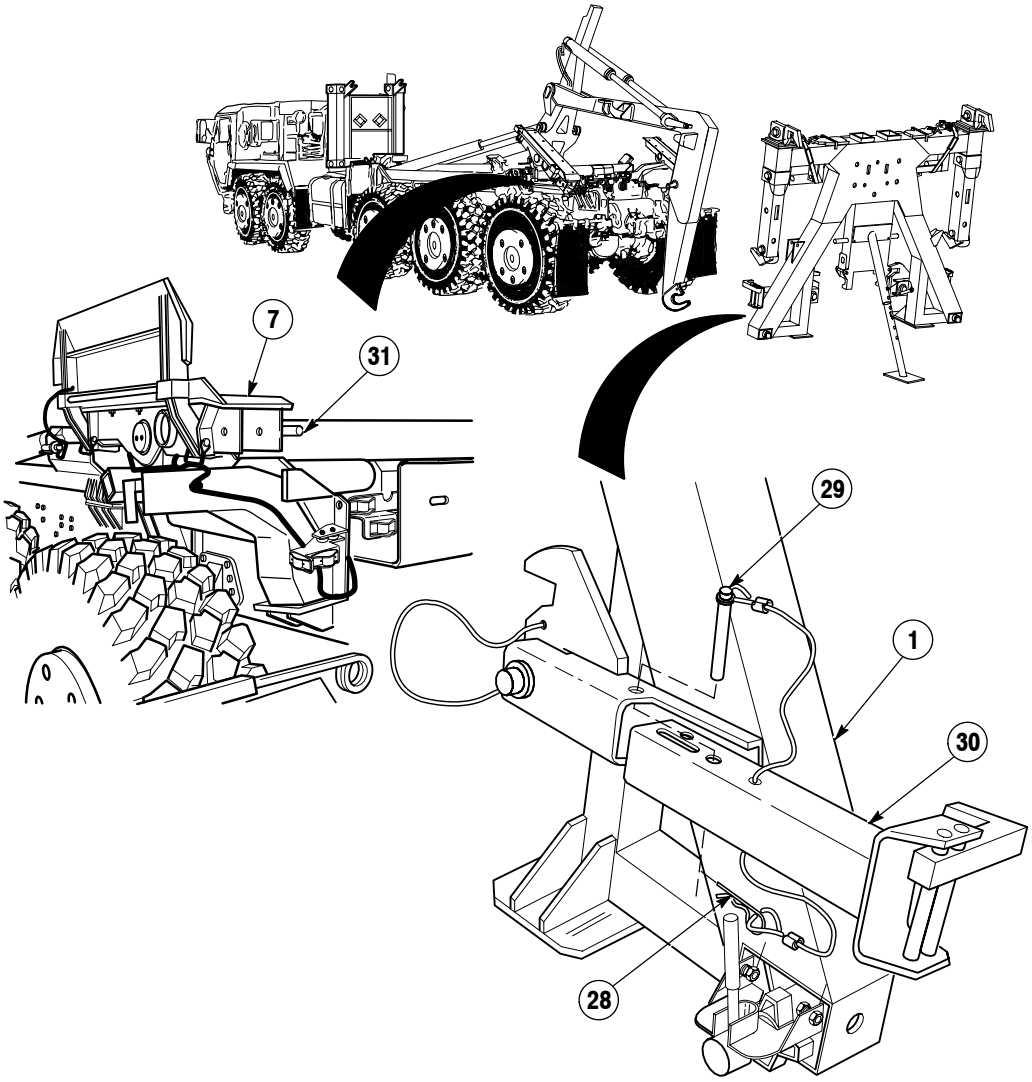
NOTE

There are two rear container locks on lifting frame. Left side is shown.

(31) Remove lock pin (28), pin (29) from slider (7) and rear container lock (30).

(32) Support rear container lock (30) and turn handle (31) on slider (7) forward to unlocked position.

(33) Remove rear container lock (30) from slider (7).

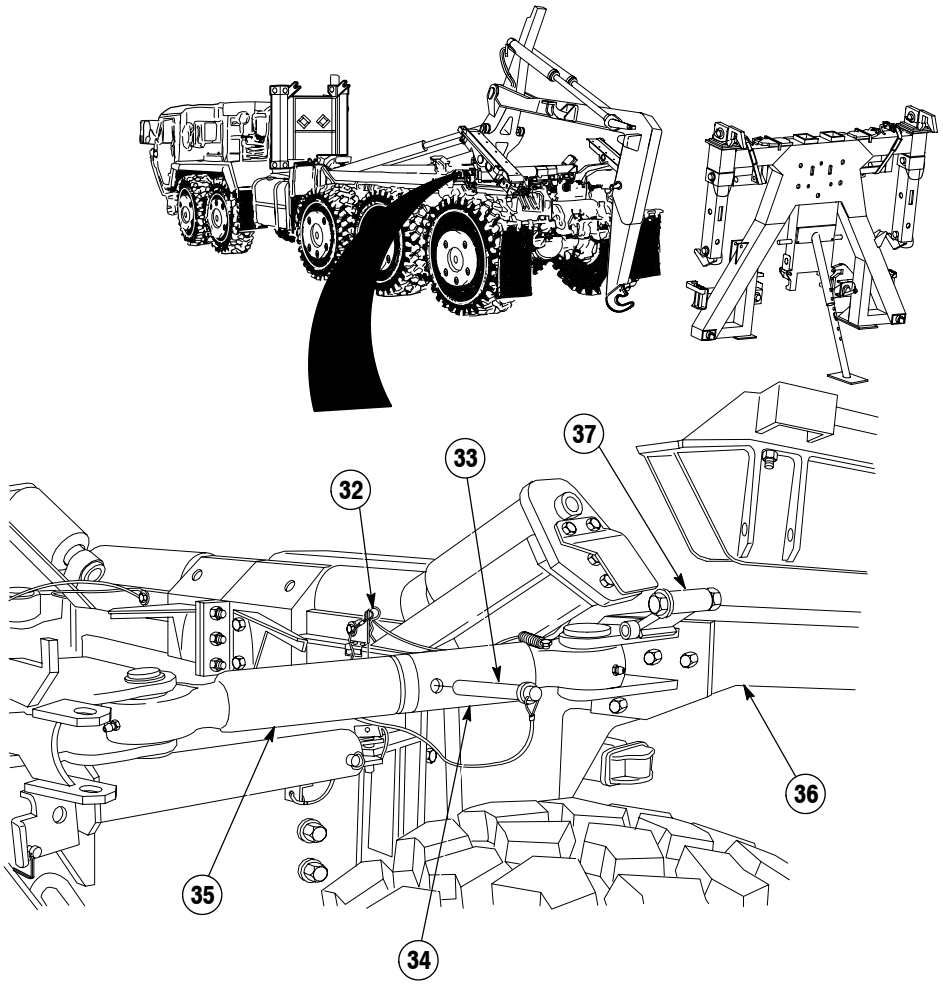


(34) Install rear container lock (30), pin (29) and lock pin (28) in stowage bracket on lifting frame (1).

(35) Turn handle (31) on slider (7) back to locked position.

(36) Repeat Steps (31) through (35) for right side.

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).



NOTE

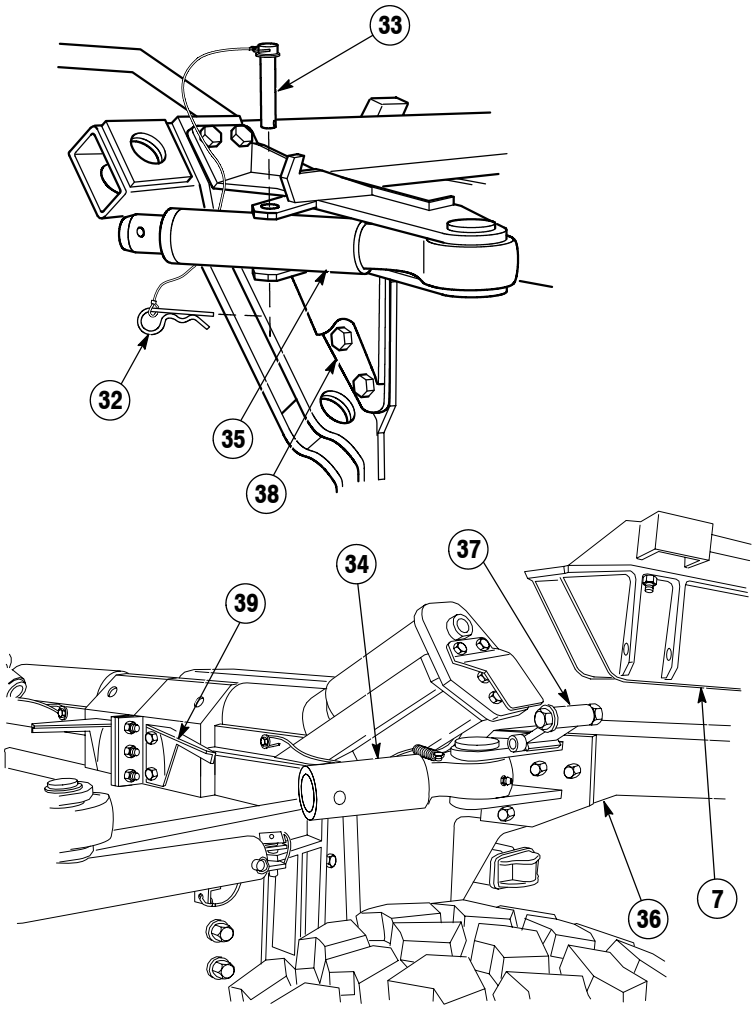
There are two strut and slider assemblies on PLS truck. Left side is shown.

(37) Remove lock pin (32) and pin (33) from short strut (34) and long strut (35).

(38) Rotate slider arm (36) with handle outward to separate short strut (34) and long strut (35).

(39) Position flip lock (37) up to hold slider arm (36) out.

(40) Release slider arm (36).

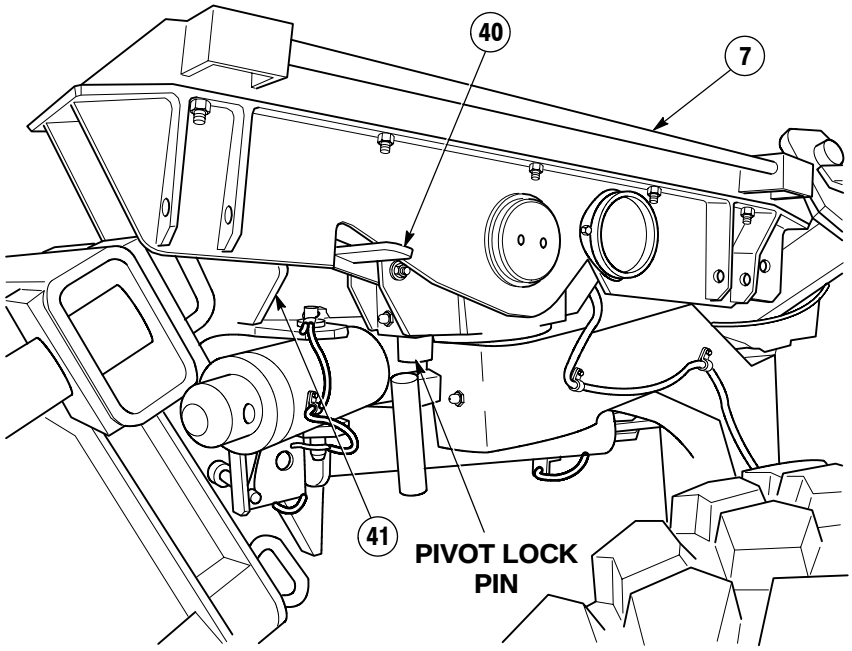


(41) Position long strut (35) on stowage bracket (38) and install pin (33) and lock pin (32).

(42) Rotate slider arm (36) with handle outward and disengage flip lock (37) by rotating it down.

(43) Rotate slider arm (36) forward and front of slider (7) down and position short strut (34) on stow plate (39).

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).



WARNING

Ensure not to hold on to front of slider when stowing. Hands and fingers may be pinched between front of slider and hard lift bracket causing injury to personnel.

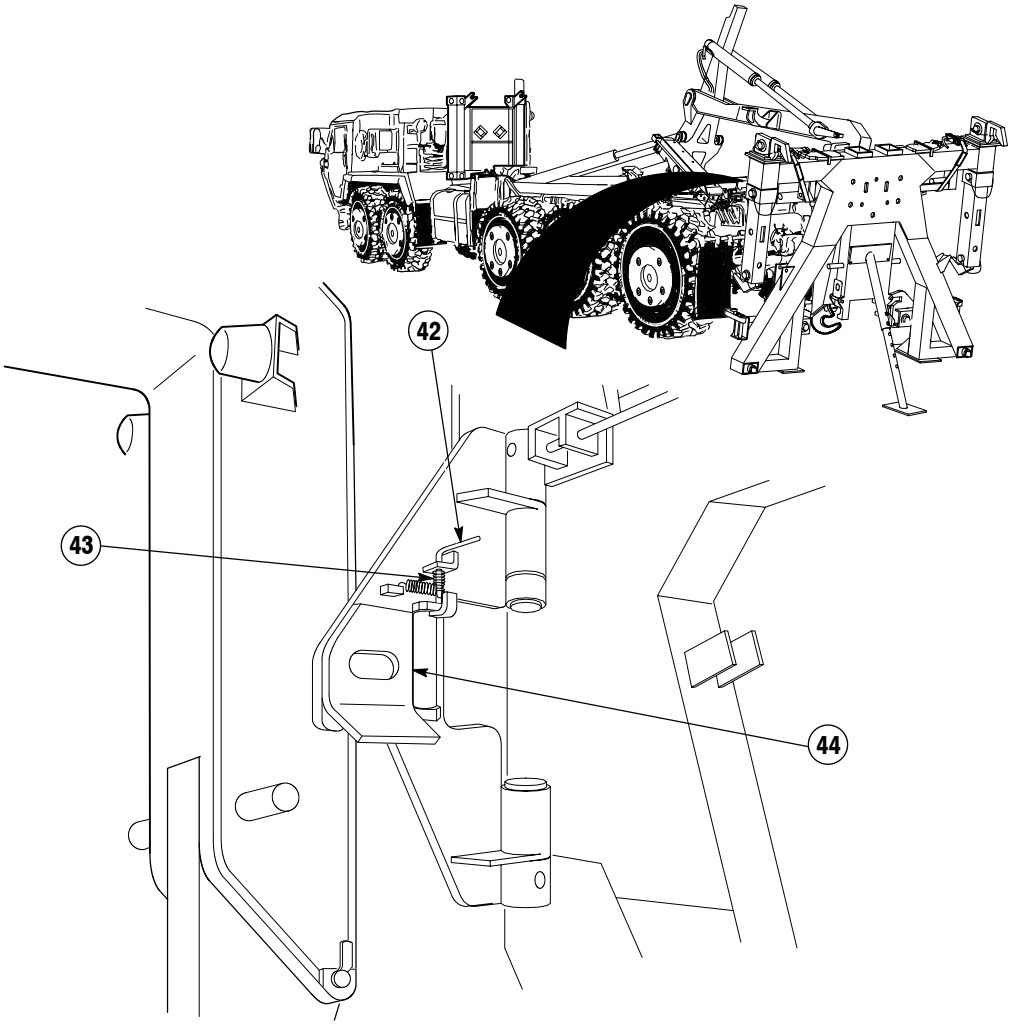
NOTE

- Rear of slider may have to be pulled out slightly to position front of slider on retaining bracket.
- Pivot lock pins may not lock if lock pin receptacle is full of debris. If this occurs, remove debris and lubricate lock pin and lock pin fitting.

(44) Pull down pivot lock pin handle (40), lift rear of slider (7) and rotate front of slider over retaining plate (41) until pivot lock pins lock.

(45) Release pivot lock pin handle (40).

(46) Repeat Steps (37) through (45) for right side.



NOTE

There are two flipper bracket lock plates on lifting frame. Left side is shown.

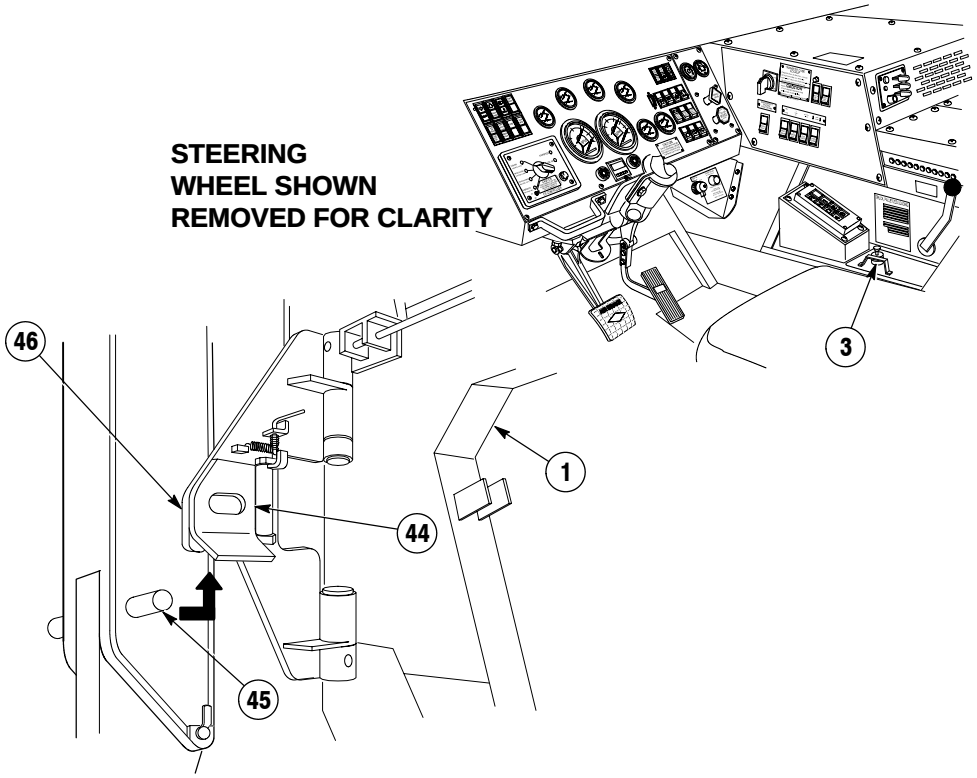
(47) Lift pin handle (42) and release pin (43).

(48) Rotate pin handle (42) towards lifting frame to unlocked position and secure pin handle in detent.

(49) Ensure flipper bracket lock plate (44) moves freely.

(50) Repeat Steps (47) through (49) for right side.

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).



WARNING

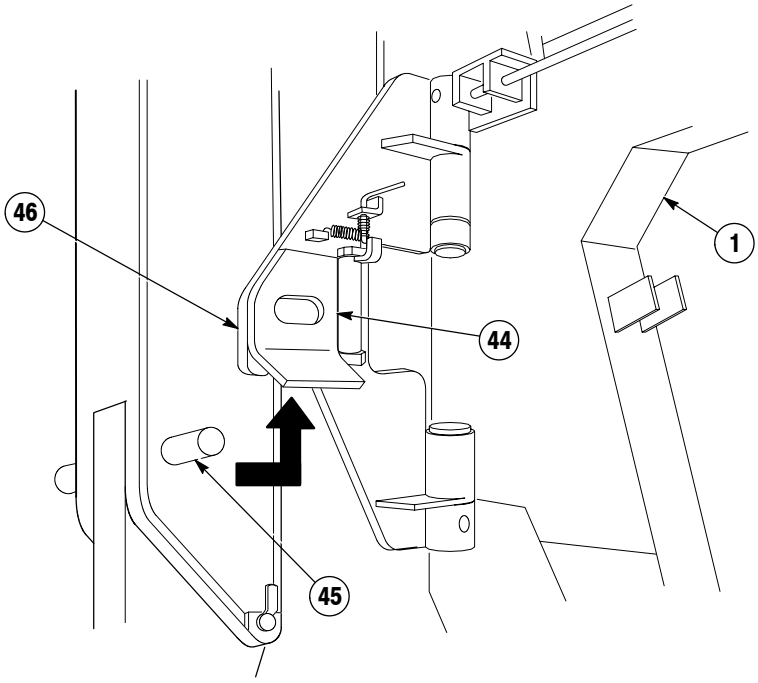
- Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.
- Ensure lifting frame is free of snow, ice, and mud when installing on LHS. Lifting frame may be unbalanced and may cause injury or death to personnel.

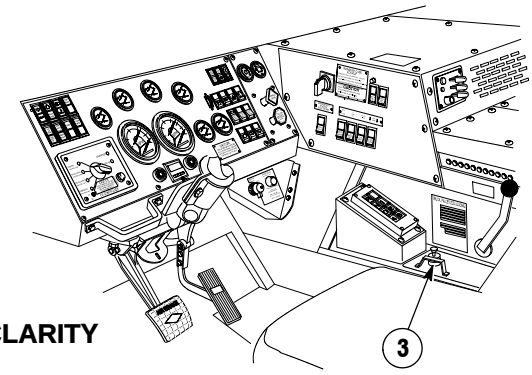
NOTE

For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-Loading Flatrack in Auto Mode”.

(51) Start engine (Para 2-15).

(52) Move joystick (3) to UNLOAD until LHS stops and pivot pin (45) is below flipper bracket (46) and flipper bracket lock plate (44) on lifting frame (1).





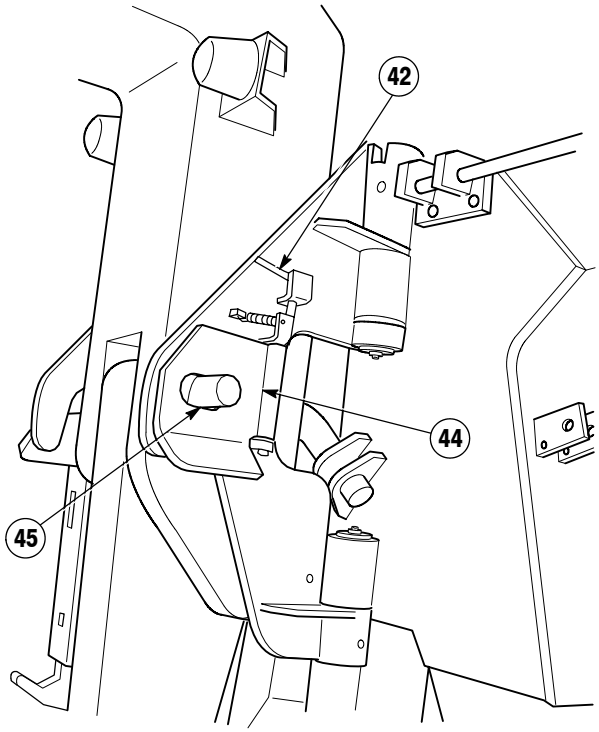
STEERING WHEEL SHOWN REMOVED FOR CLARITY

(53) Back up truck until HA contacts lifting frame (1) and pivot pin (45) is directly below flipper bracket (46) and flipper bracket lock plate (44).

(54) Move joystick (3) to LOAD and raise pivot pin (45) in flipper bracket (46) and flipper bracket lock plate (44) on lifting frame (1).

(55) Raise lifting frame (1) approximately 12 in. (30 cm) off of ground.

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).



(56) Shut off engine (Para 2-23).

WARNING

Lifting frame must be properly secured to HA pivot pin.

(57) Verify lifting frame is secure and flipper bracket lock plate (44) is locked onto pivot pin (45). If necessary repeat, Steps (52) through (56).

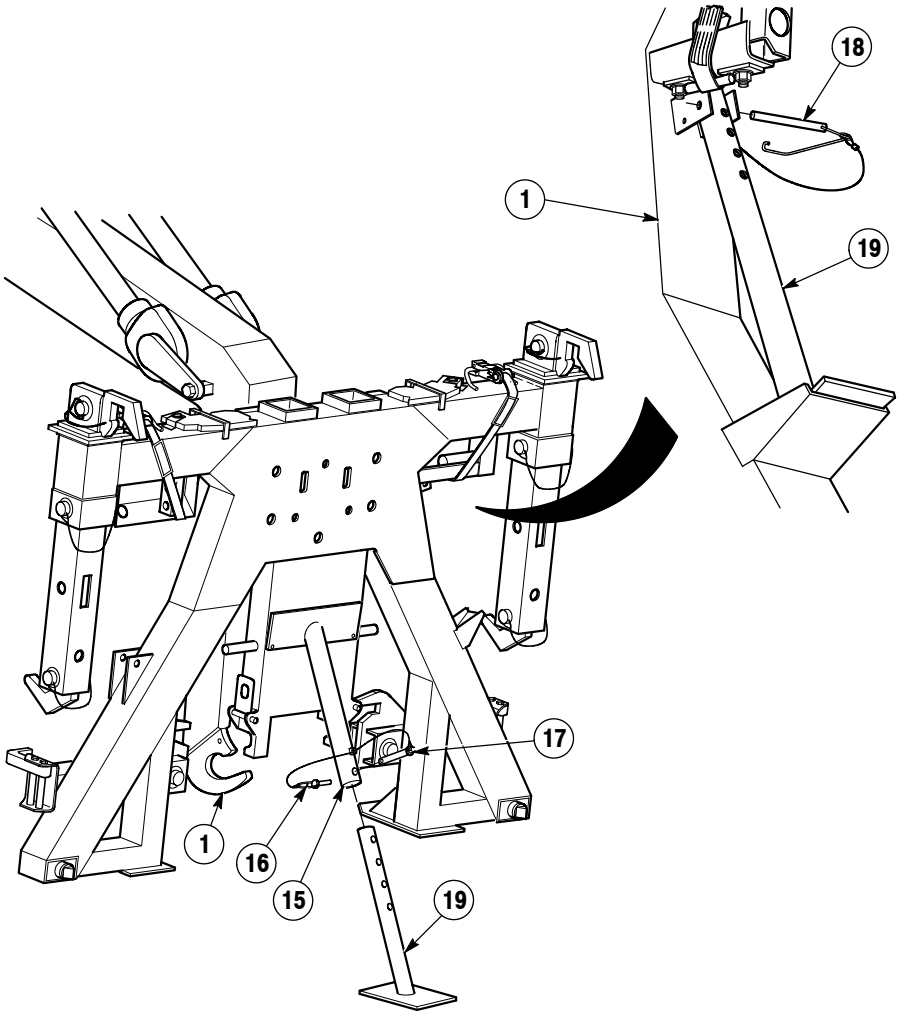
NOTE

There are two flipper bracket lock plates. Left side shown.

(58) Lift pin handle (42).

(59) Rotate pin handle (42) into locked position, and release pin handle.

(60) Ensure flipper bracket lock plate (44) is positioned over pivot pin (45) and pin handle (42) is locked.



(61) Repeat Steps (58) through (60) for right side.

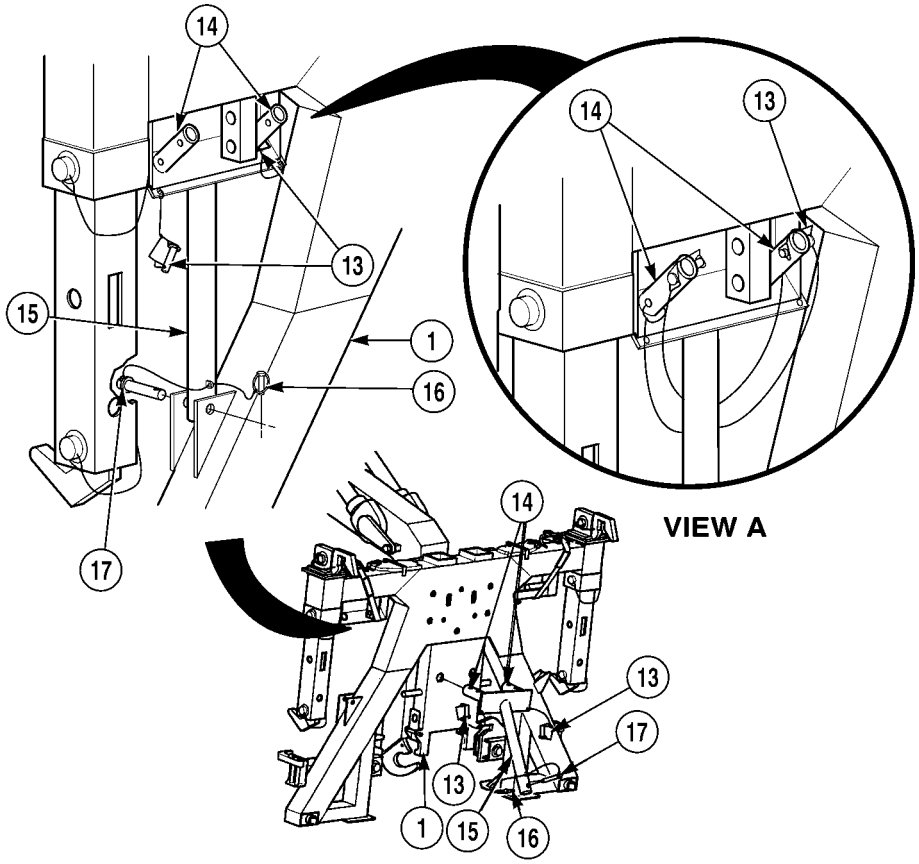
(62) Remove lock pin (18) from stowage bracket on lifting frame (1).

(63) Support lower support leg (19) and remove lock pin (16) and pin (17).

(64) Remove lower support leg (19) from upper support leg (15).

(65) Position lower support leg (19) in stowage bracket on lifting frame (1) and install lock pin (18).

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).



(66) Support upper support leg (15) and remove two lock pins (13) from pins (14).

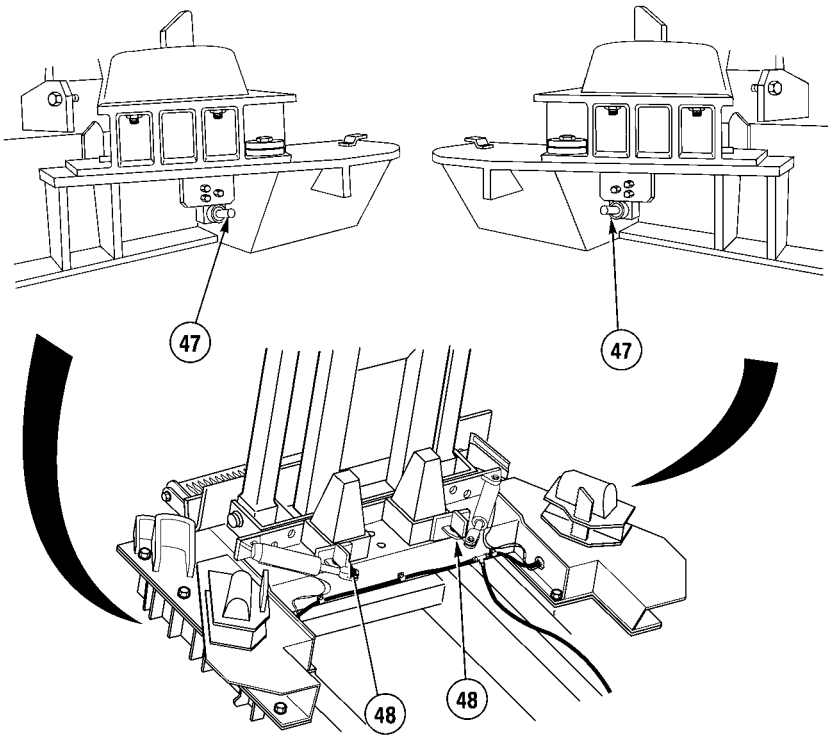
(67) Remove upper support leg (15) from lifting frame (1).

CAUTION

Ensure tethers of two lock pins installed in Step (68) route behind upper support leg and are installed on opposite pins. Failure to comply may allow tethers to catch on lift hook, causing damage to equipment.

(68) Position upper support leg (15) in stowage bracket on lifting frame (1) and install two lock pins (13) on opposite pins (14). Criss-cross tethers by routing lower right lock pin to upper left hole in upper strut and lower left lock pin to upper right hole in upper strut, as shown in View A.

(69) Install pin (17) and lock pin (16) on upper support leg (15) and stowage bracket on lifting frame (1).



WARNING

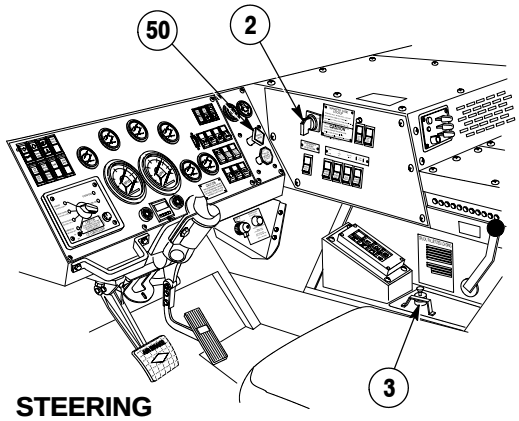
- Flipper bracket and flipper bracket lock plate must be properly locked to pivot pin before operating LHS to stow lifting frame. Failure to comply could cause lifting frame to become unhooked and cause injury or death to personnel.
- Before stowing lifting frame on truck, ensure paddles are rotated to engage position, bumper support rotated forward, slide arms stowed and rear container locks are stowed on lifting frame.

NOTE

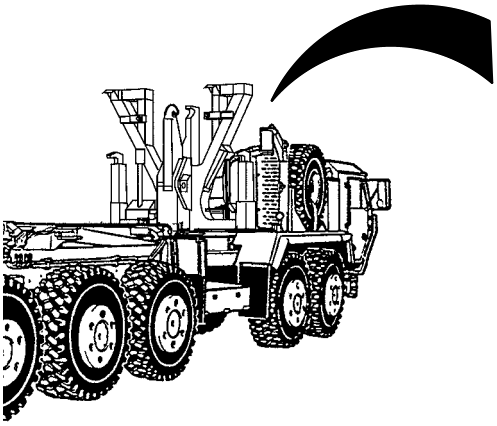
- Paddles are properly positioned when air cylinders are fully extended and paddles face towards front of truck.
- Ensure paddles are properly positioned to engage lifting frame.

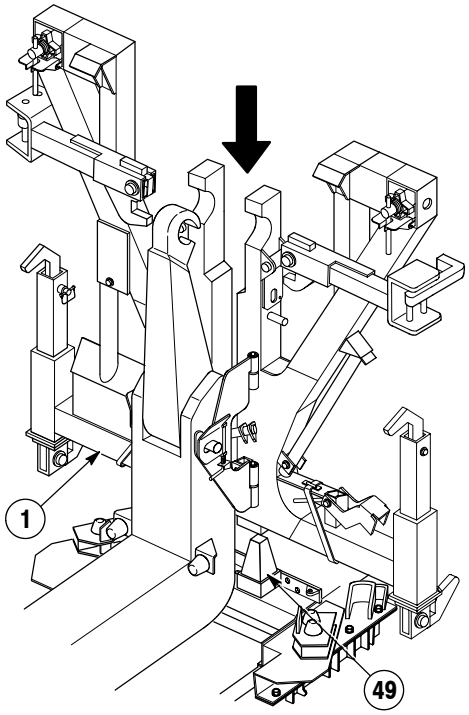
(70) Operate air controls (47) to rotate paddles (48) to engaged position.

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY





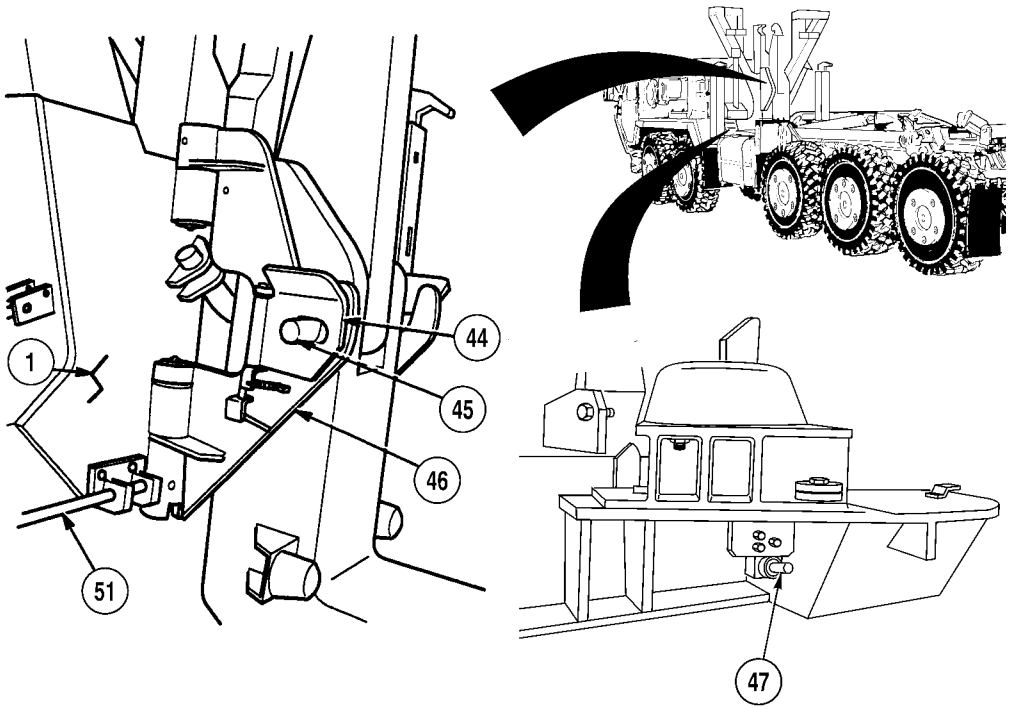
(71) Start engine (Para 2-15).

(72) Move joystick (3) to LOAD and stow lifting frame (1) on cone weldments (49).

(73) Turn hydraulic selector switch (2) to OFF.

(74) Shut off engine (Para 2-23).

(75) Pull out parking brake knob (50) to apply parking brakes.



NOTE

There are two flipper lock assemblies and straps on lifting frame. Left side is shown.

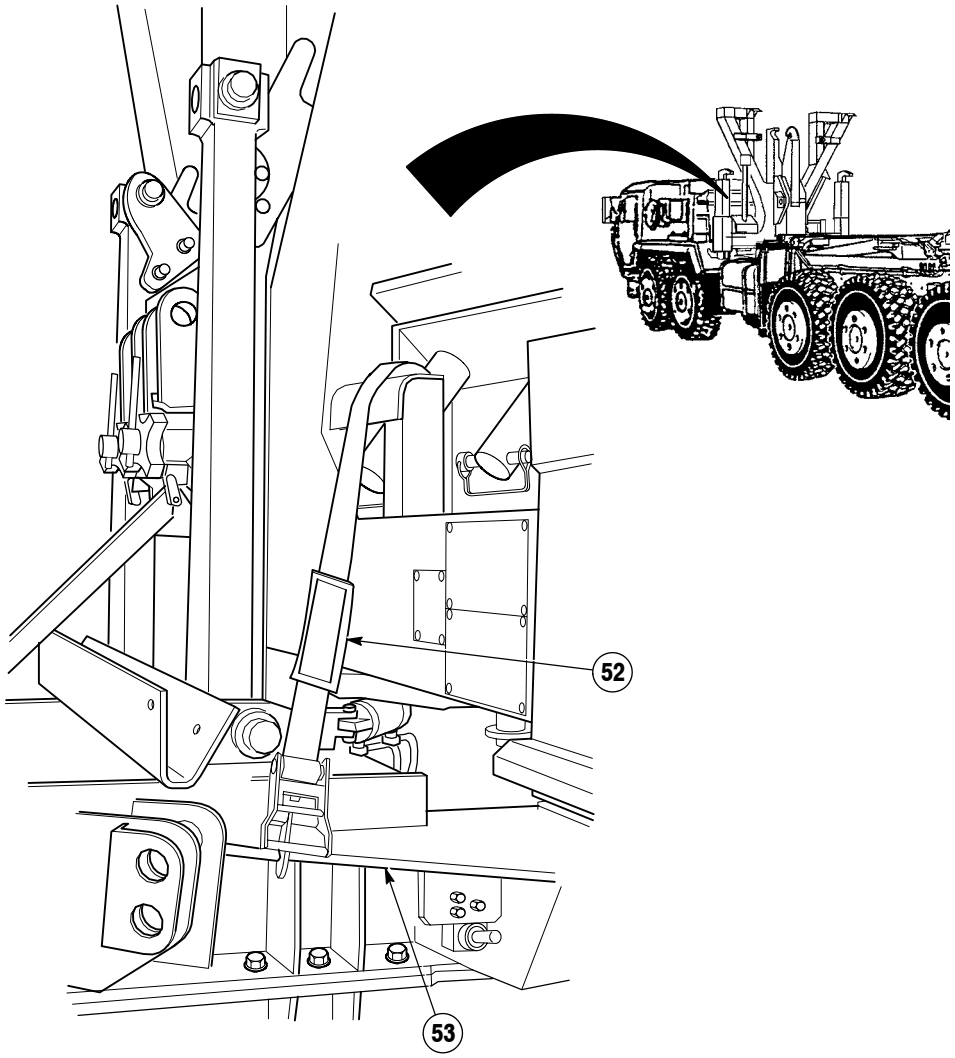
(76) Pull flipper lock pin handle (51) out and push air valve lever (47) down to rotate flipper bracket (46) and flipper bracket lock plate (44) off of pivot pin (45).

(77) Release flipper lock pin handle (51).

(78) Ensure flipper bracket (46) is positioned against lifting frame (1) away from pivot pin (45).

(79) Ensure flipper lock pin is engaged in flipper bracket (46).

2-38. RETURNING PLS TRUCK TO FLATRACK MODE (CONT).



(80) Position hook of strap (52) to rod on front support assembly (53) and tighten strap.

(81) Repeat Steps (76) and (80) for right side.

2-39. LIFT CONTAINER OUT OF MUD.

a. Using Lift Hooks to Recover Container Sunk in Mud.

(1) Ensure lifting frame is in 82 in. (208 cm) or more container mode, (Para 2-32).

WARNING

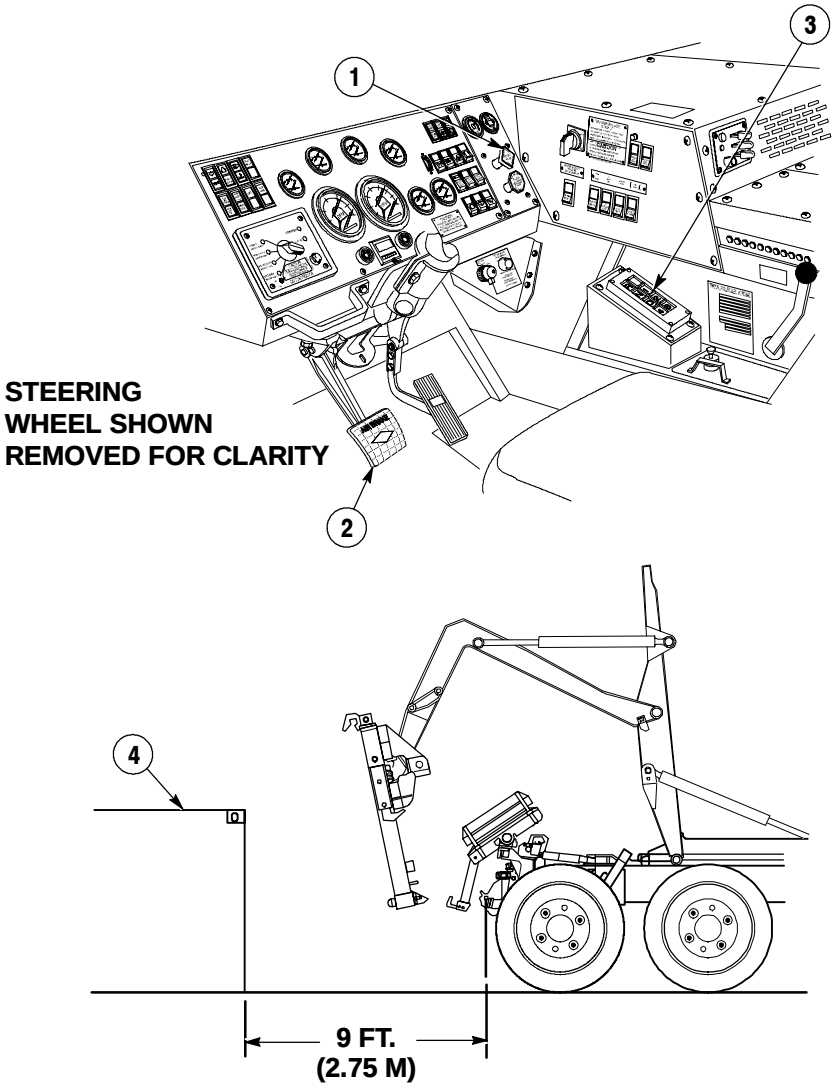
- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Maximum permissible gross container weight is 35,000 lbs. (15,890 kg).
- Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.
- Do not stand between lifting frame and container. Truck could roll crushing personnel between them causing serious injury or death.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.

NOTE

- For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-Loading Flatrack in Auto Mode”.
- Rear mud flaps may be pinned up to provide better visibility of lifting frame lower container locks.
- Ensure soft soil conditions around stuck container is able to support truck during recovery operation.

(2) Start engine (Para 2-15).

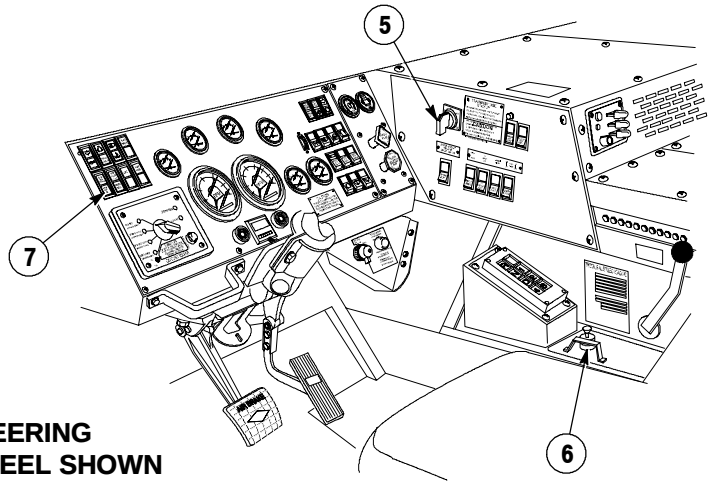
2-39. LIFT CONTAINER OUT OF MUD (CONT).



(3) Push in parking brake knob (1), apply service brake pedal (2) and set transmission range selector (3) to Reverse (R).

(4) Release service brake pedal (2) and position rear of truck within 9 ft. (2.75 m) of front of container (4), aligning centerline of truck within 2 in. (5 cm) of container centerline.

(5) Apply service brake pedal (2) and set transmission range selector (3) to Neutral (N).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

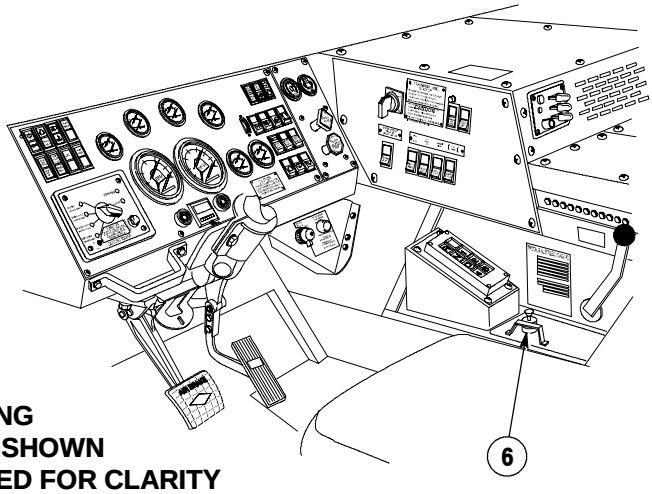
(6) Turn hydraulic selector switch (5) to AUTO.

CAUTION

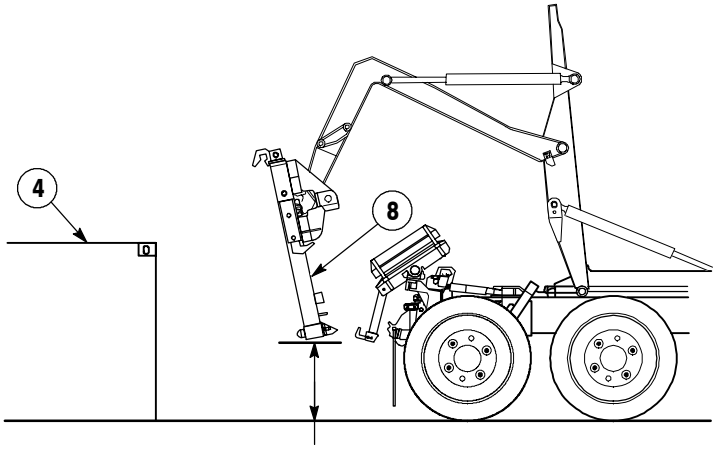
On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Return hydraulic selector to AUTO and continue (UNLOAD) operation. Repeat as required. Failure to comply may result in damage to equipment.

(7) Move joystick (6) to UNLOAD. Hook arm will raise and begin to move rearward. LHS NO TRANS lamp (7) will illuminate to indicate hook arm is up and load lock has been cleared.

2-39. LIFT CONTAINER OUT OF MUD (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY



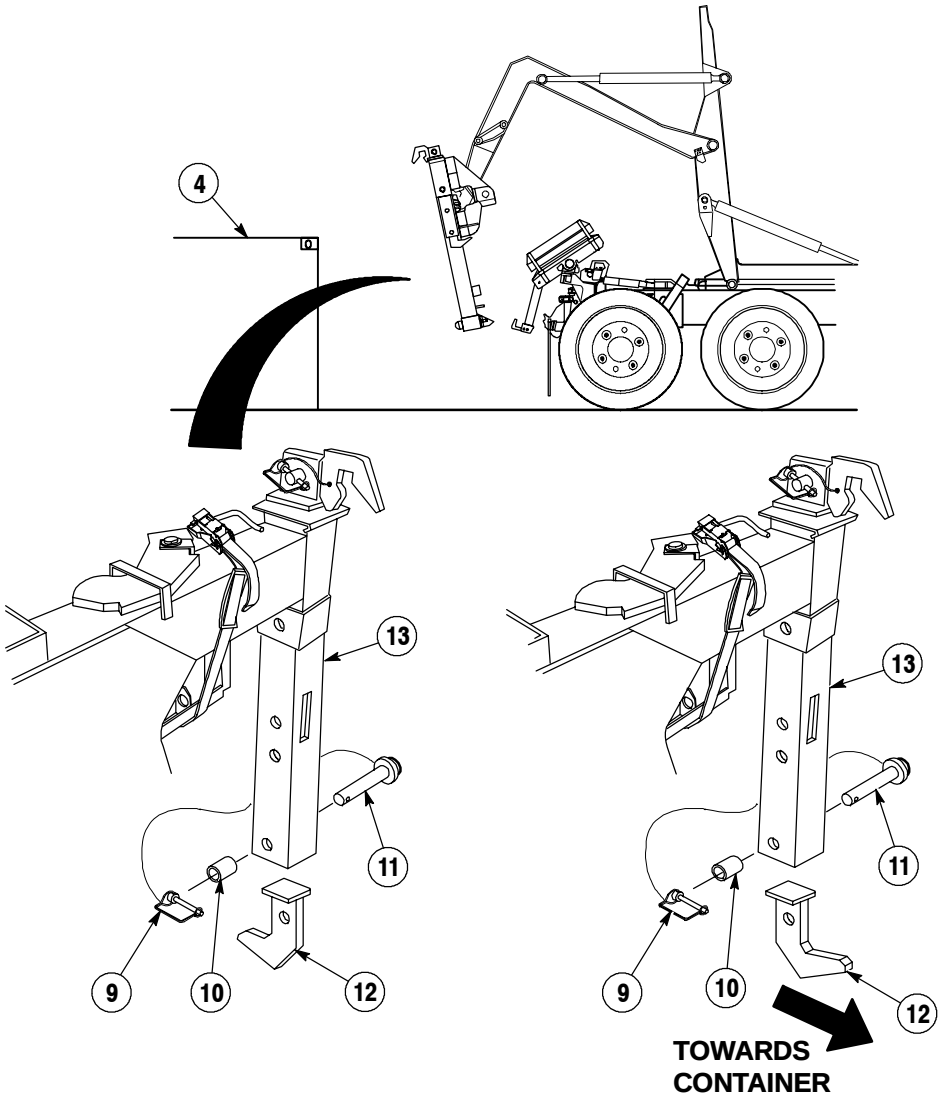
12 IN. (30 CM)

(8) Continue to hold joystick (6) to UNLOAD position until lifting frame (8) is positioned in front of container (4).

(9) Operate LHS in AUTO mode until lifting frame (8) is approximately 12 in. (30 cm) off of ground.

(10) Release joystick (6).

(11) Shut off engine (Para 2-23).



NOTE

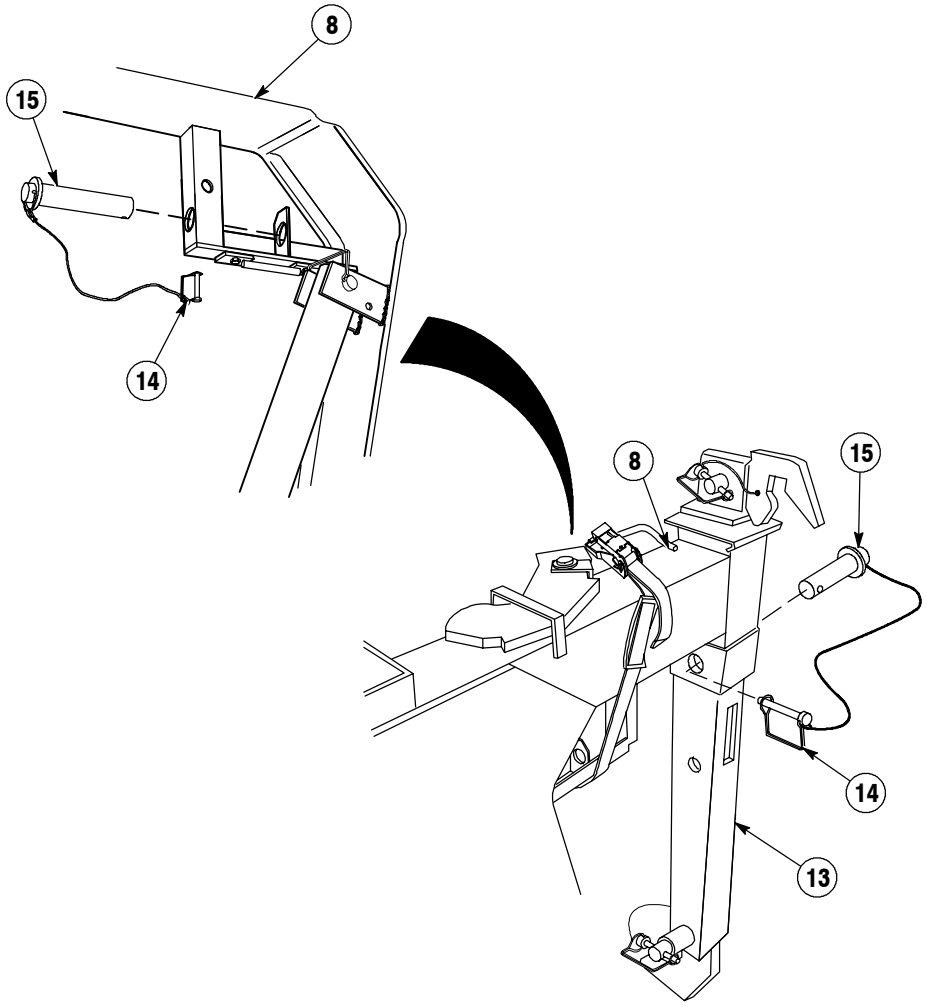
There are two lift hooks. Both are installed same way.
Right side shown.

(12) Remove lock pin (9), collar (10), pin (11) and lift hook (12) from slide arm (13).

(13) Rotate lift hook (12) towards container (4).

(14) Install lift hook (12), pin (11), collar (10) and lock pin (9) in slide arm (13).

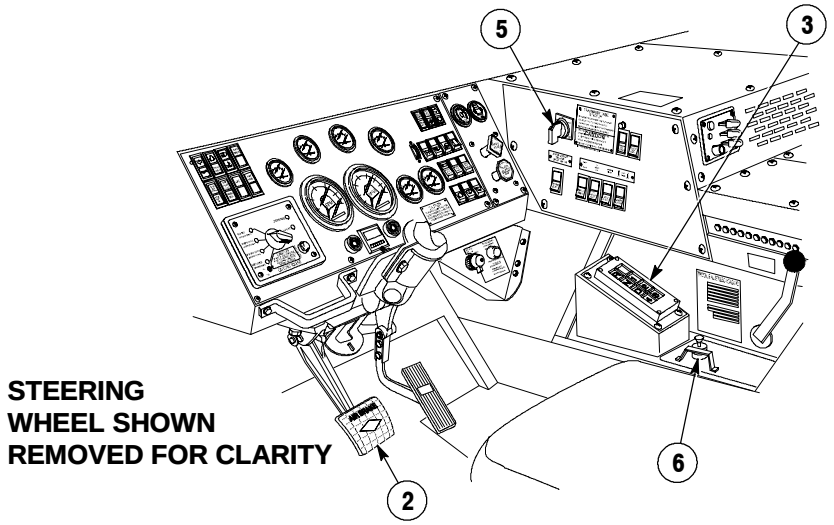
2-39. LIFT CONTAINER OUT OF MUD (CONT).

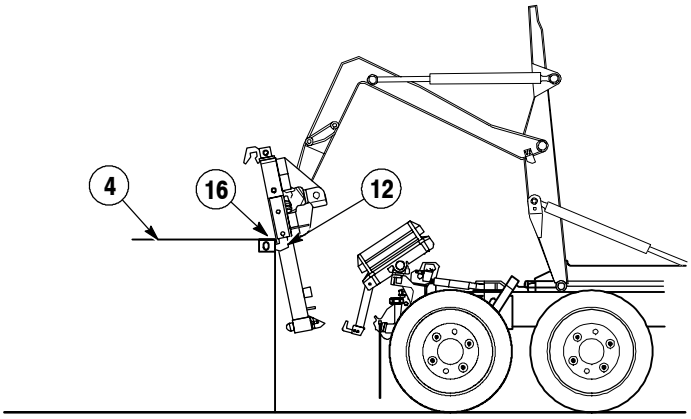


(15) Remove lock pin (14) and pin (15) from stow position on lifting frame (8).

(16) Install pin (15) and lock pin (14) in lifting frame (8) and slide arm (13) in upper hole.

(17) Repeat Steps (12) through (16) for left side.





(18) Start engine (Para 2-15).

(19) Apply service brake pedal (2) and set transmission range selector (3) to Reverse (R).

CAUTION

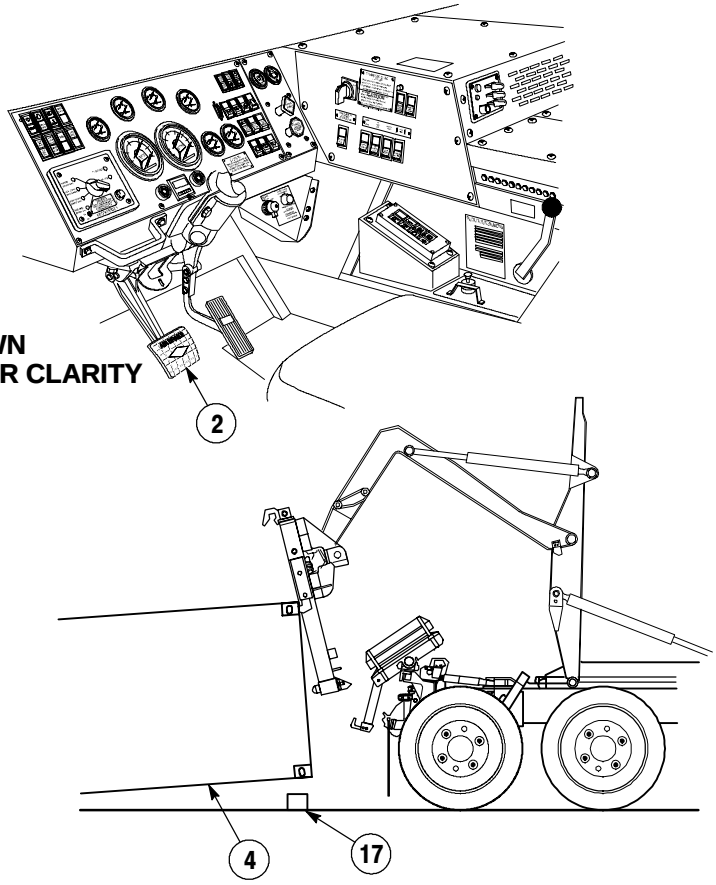
Ensure slide arm lift hooks are fully engaged with container upper corner castings. Failure to comply may result in damage to equipment.

(20) Release service brake pedal (2). Move joystick (6) to load and position lift hooks (12) in container top ISO corners (16) on container (4).

(21) Apply service brake pedal (2).

(22) Turn hydraulic selector switch (5) to MAN H.A.

2-39. LIFT CONTAINER OUT OF MUD (CONT).



WARNING

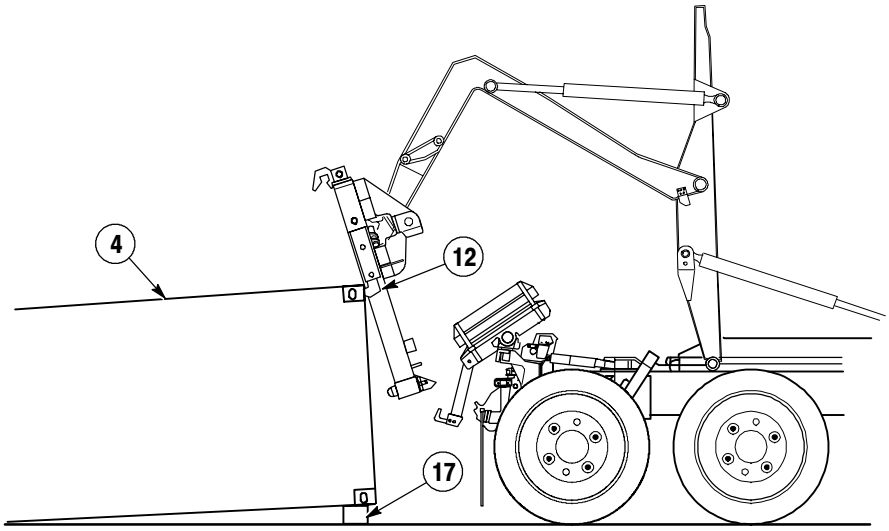
Ensure lower container locks do not contact container. If lower container locks contact container lift hooks will disengage container causing container to drop and lifting frame to become erratic. Failure to comply may result in injury or death to personnel.

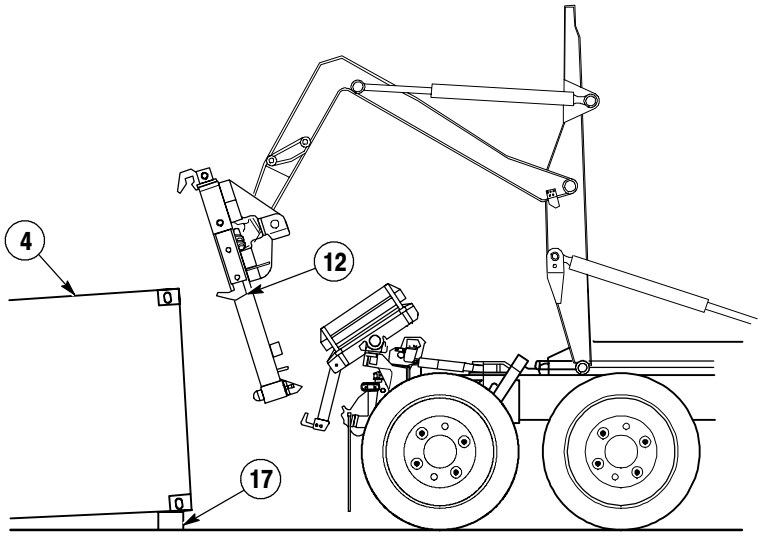
(23) With the aid of an assistant, slowly lift up container (4) until lower corner castings are approximately 6 in. (15 cm) from container.

(24) Release service brake pedal (2) and back truck up approximately 12 in. (30 cm).

(25) Apply service brake pedal (2).

(26) Repeat Steps (23) through (25) until front of container (4) is out of mud and chock blocks (17) can be positioned under container.





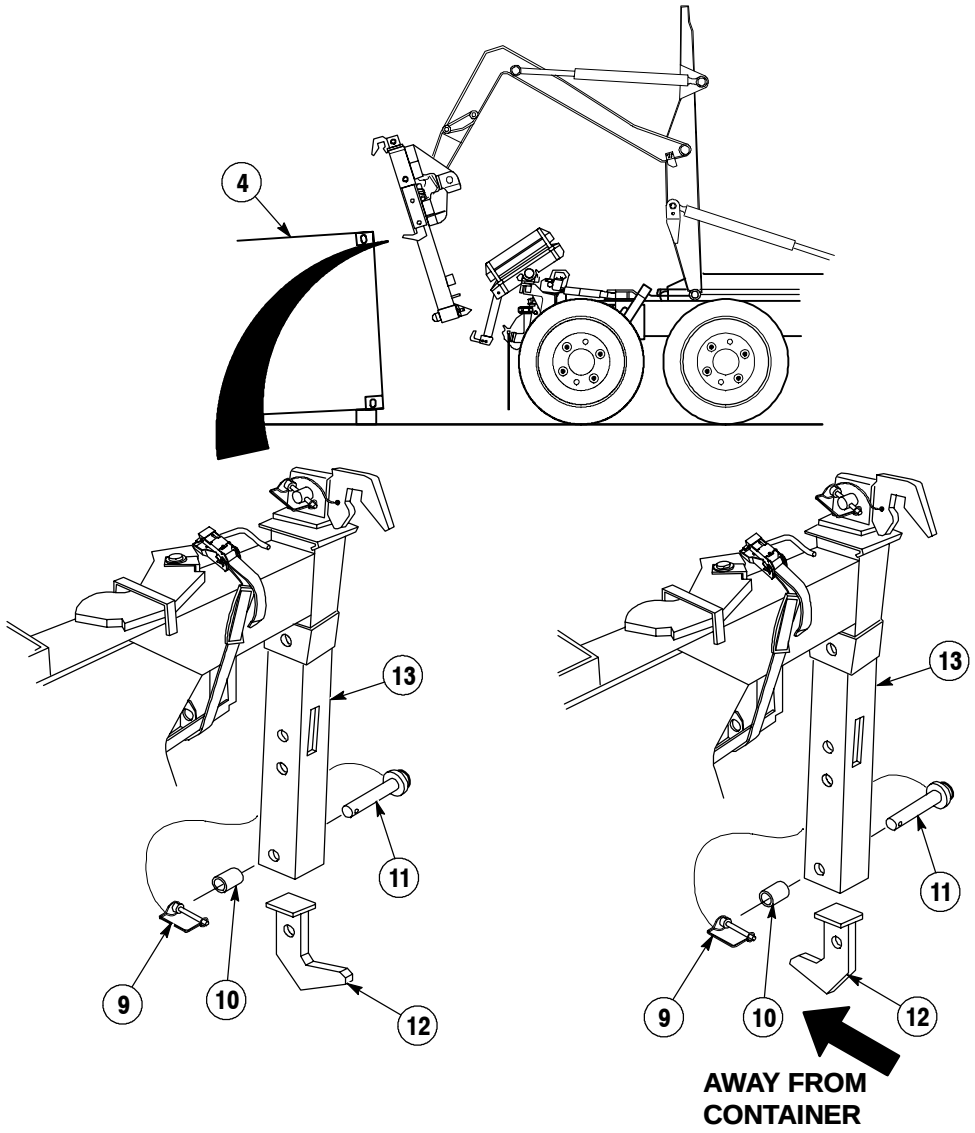
WARNING

Do not put hands, arms or any body parts under container when positioning chock blocks. Failure to comply may result in injury or death to personnel.

(27) Position two chock blocks (17) under container (4) end.

(28) Lower LHS to position container (4) on chock blocks (17) and disengage lift hooks (12) from container.

2-39. LIFT CONTAINER OUT OF MUD (CONT).

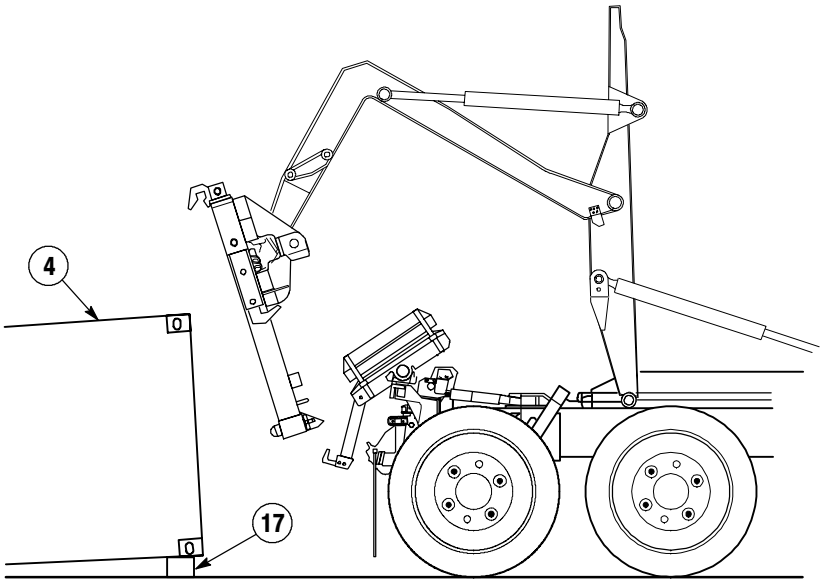


(29) Remove lock pin (9), collar (10), pin (11) and lift hook (12) from slide arm (13).

(30) Rotate lift hook (12) away from container (4).

(31) Install lift hook (12), pin (11), collar (10) and lock pin (9) in slide arm (13).

(32) Repeat Steps (29) through (31) for left side.



(33) Attach lifting frame to container (4) following normal container loading procedures, refer to applicable container (Para 2-33 through 2-36).

(34) Raise container (4) end 12 in. (30 cm).

WARNING

Do not put hands, arms or any body parts under container when positioning chock blocks. Failure to comply may result in injury or death to personnel.

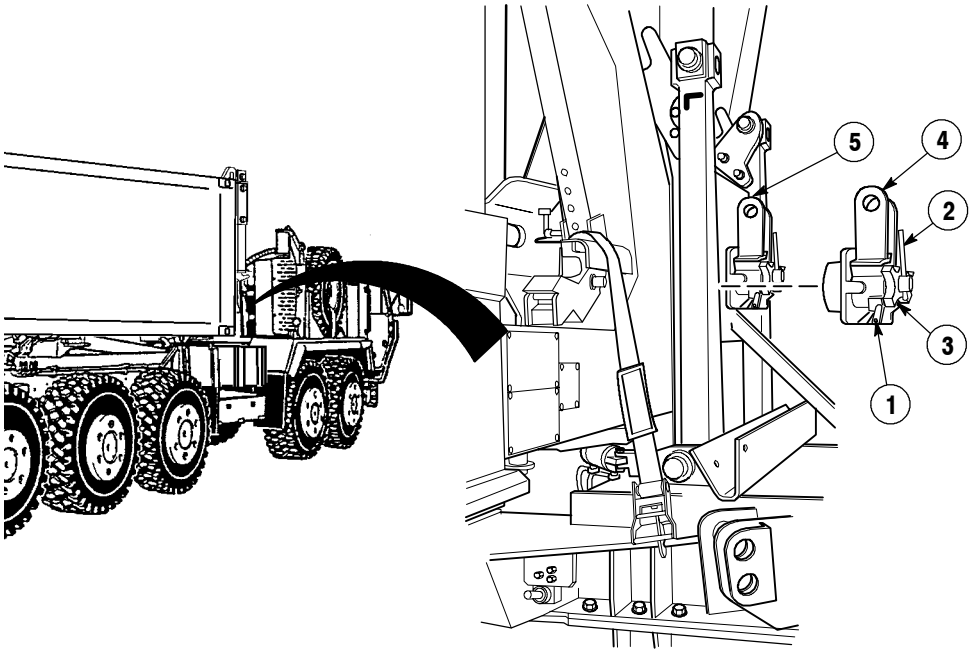
(35) Remove and stow chock blocks (17).

NOTE

See loading and unloading container (Para 2-32 through 2-36) for additional instructions.

2-40. RAIL TRANSPORT.

a. Rail Transport Strut Installation.

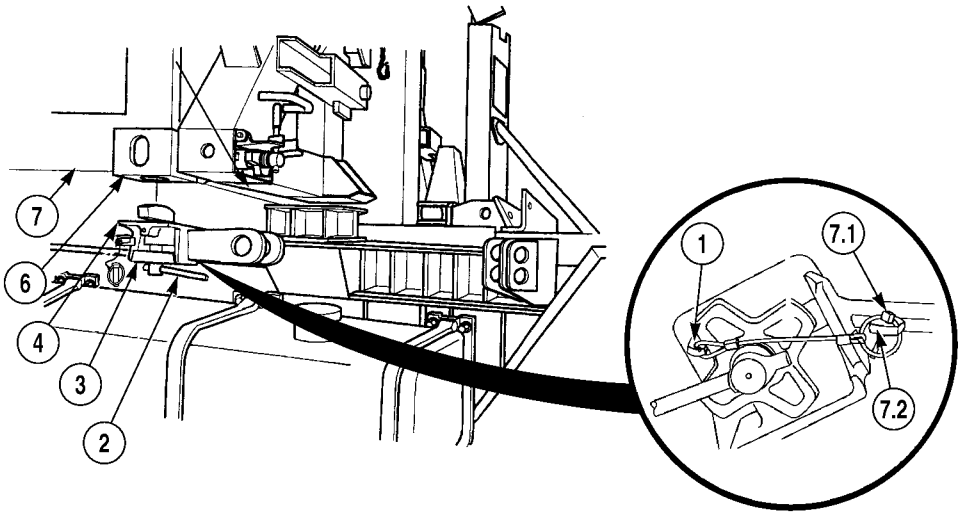


NOTE

- Ensure ISO lower corner castings are free of dirt and debris.
- There are two ISO corner locks. Both are installed the same way. Right side shown.
- Ensure container is fully loaded on truck and rear container locks are installed (Para 2-33 through 2-36).

(1) Lift pin (1) to unlock lock handle (2).

(2) Loosen handnut (3), rotate lock handle (2) 90 degrees and remove ISO corner lock (4) from stow weldment (5).



(3) Position ISO corner lock (4) in front bottom corner casting (6) on ISO container (7).

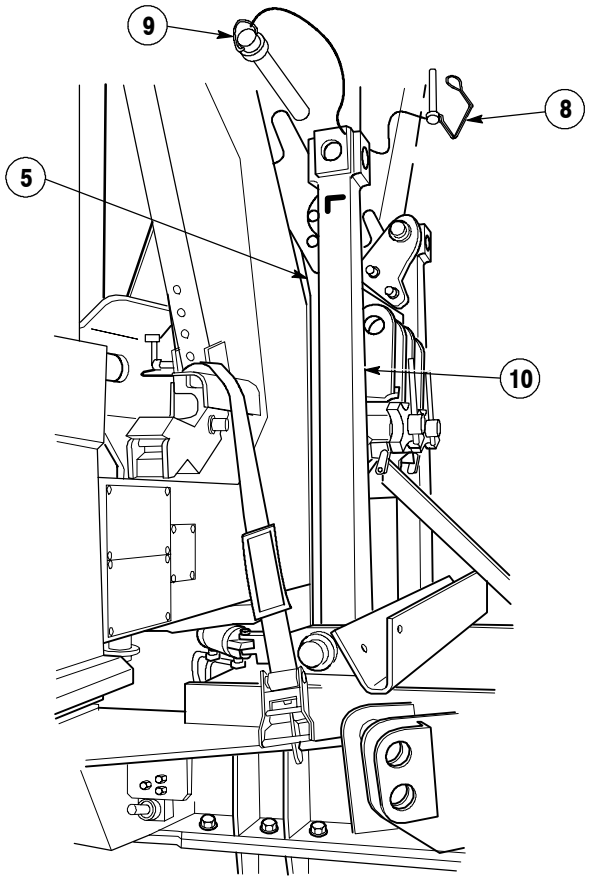
NOTE

ISO corner lock handle points towards front or rear of truck in locked position.

(4) Rotate lock handle (2) 90 degrees to locked position and tighten handnut (3).

(5) Rotate pin (1) down to lock handle (2) and install lock pin (7.1) in bracket (7.2).

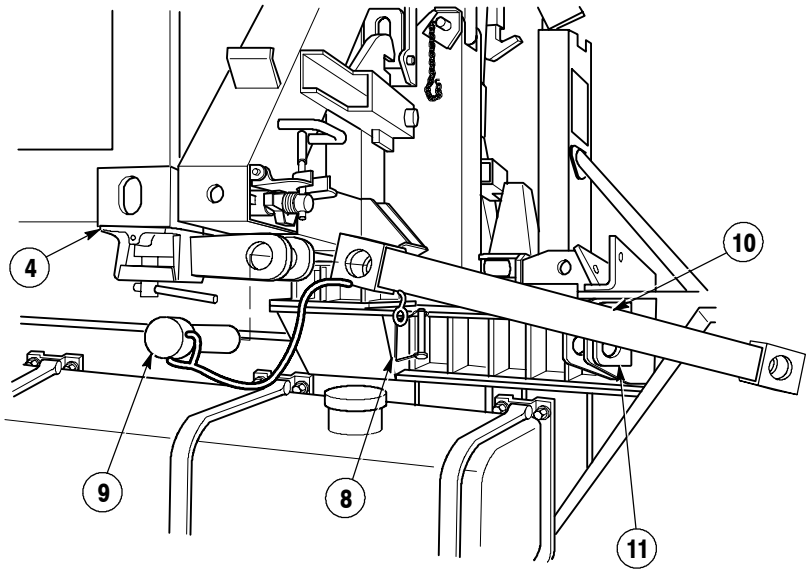
2-40. RAIL TRANSPORT (CONT).



WARNING

Rail transport weighs 60 lbs. (27 kg). Use the aid of an assistant when installing or removing rail strut. Failure to comply may result in injury to personnel.

(6) Remove two lock pins (8), pins (9) and rail transport strut (10) from stow weldment (5).



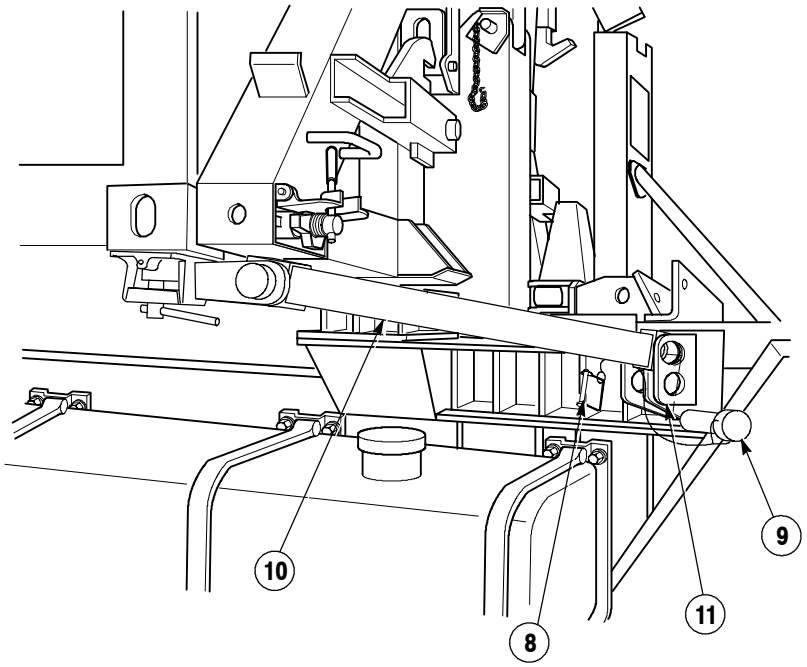
NOTE

- There are two different lengths to the rail transport strut: stenciled “L” for longer hole placement and stenciled “S” for shorter hole placement.
- Depending on which length is required, align to correct hole on front support assembly.
- See Chapter 2 for additional operating instructions.
- ISO corner lock may have to be loosened and repositioned to install pins.

(7) Position rail transport strut (10) between front support assembly (11) and ISO corner lock (4).

(8) Install rail transport strut (10) to ISO corner lock (4) with pin (9) and lock pin (8).

2-40. RAIL TRANSPORT (CONT).



NOTE

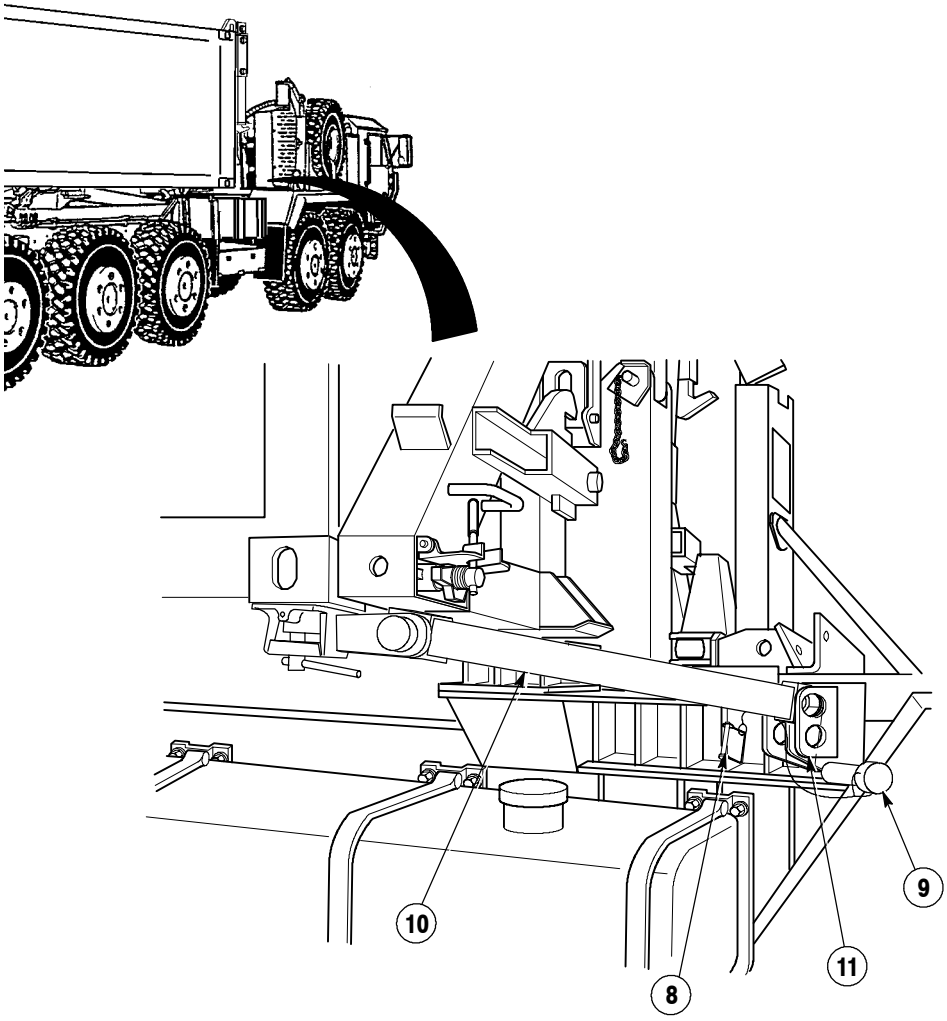
It may be necessary to rotate rail transport strut 90 degrees to align holes.

(9) Position rail transport strut (10) with either hole on front support assembly (11).

(10) Install pin (9) and lock pin (8) to rail transport strut (10) and front support assembly (11).

(11) Repeat Steps (2) through (10) for left side.

b. Rail Transport Strut Removal.

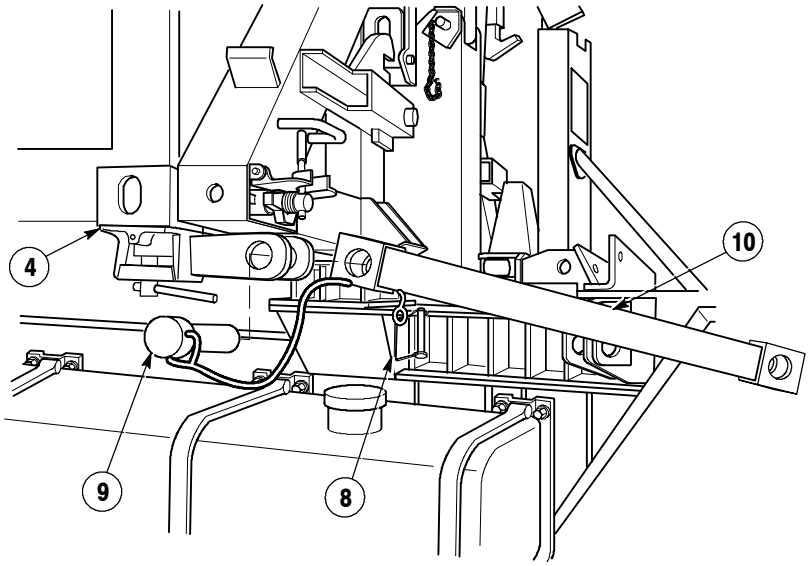


NOTE

There are two rail transport struts and ISO corner locks. Both are removed the same way. Right side shown.

(1) Support rail transport strut (10) to front support assembly (11) and remove lock pin (8) and pin (9) .

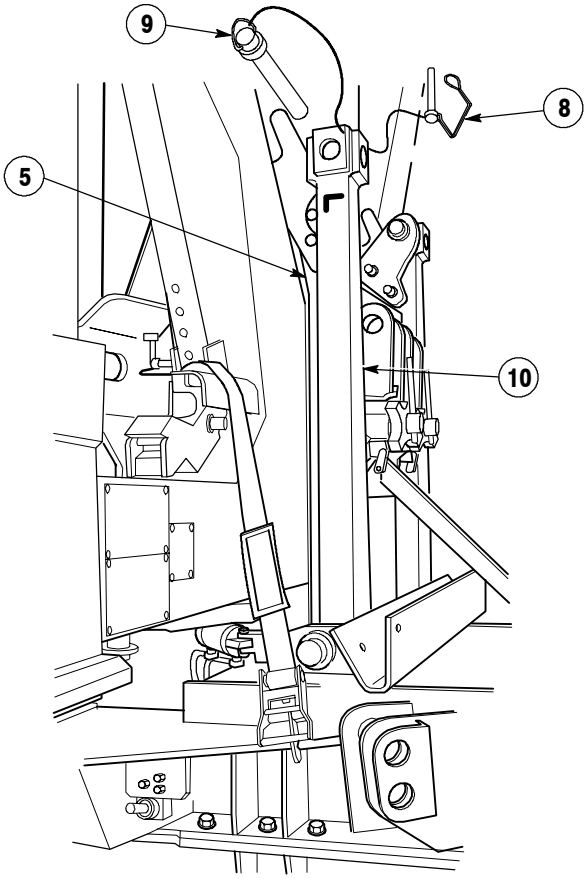
2-40. RAIL TRANSPORT (CONT).



WARNING

Rail transport weighs 60 lbs. (27 kg). Use the aid of an assistant when installing or removing rail strut. Failure to comply may result in injury to personnel.

(2) Remove lock pin (8), pin (9) and rail transport strut (10) from ISO corner lock (4).

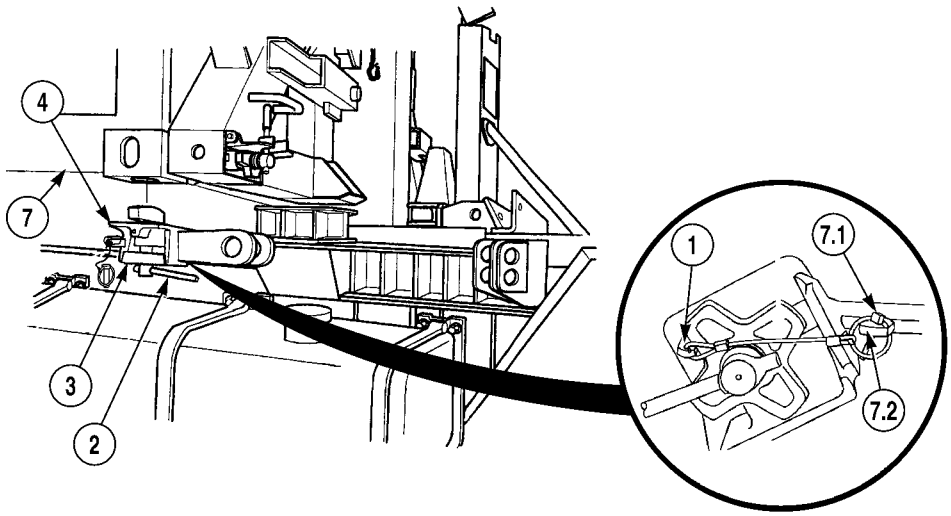


NOTE

Rail transport struts are positioned on stow weldment in "L" longer hole placement, with "L" facing outward.

(3) Position rail transport strut (10) on stow weldment (5) with two pins (9) and lock pins (8).

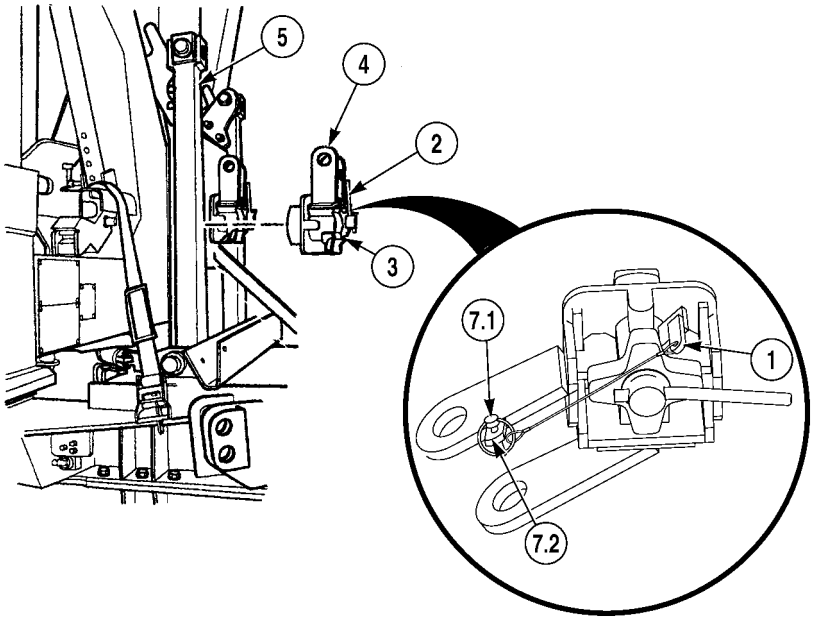
2-40. RAIL TRANSPORT (CONT).



NOTE

ISO corner lock handle points toward side of truck in unlocked position.

(4) Remove lock pin (7.1) from bracket (7.2), lift pin (1) and loosen handnut (3), rotate lock handle (2) 90 degrees to unlocked position and remove ISO corner lock (4) from bottom of container (7).



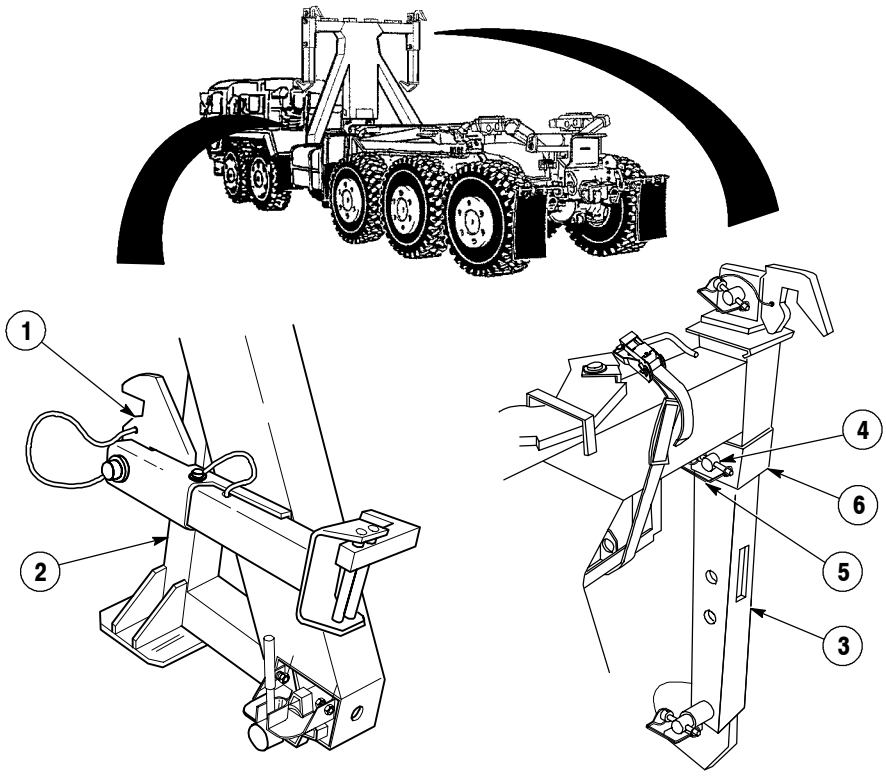
(5) Install ISO corner lock (4) on stow weldment (5) and rotate handle (2) 90 degrees.

(6) Tighten handnut (3), rotate pin (1) to lock handle (2), and install lock pin (7.1) in bracket (7.2).

(7) Repeat Steps (1) through (6) for left side.

2-41. PREPARING PLS TRUCK WITH LIFTING FRAME FOR AIR TRANSPORT.

a. Preparation for Transport.

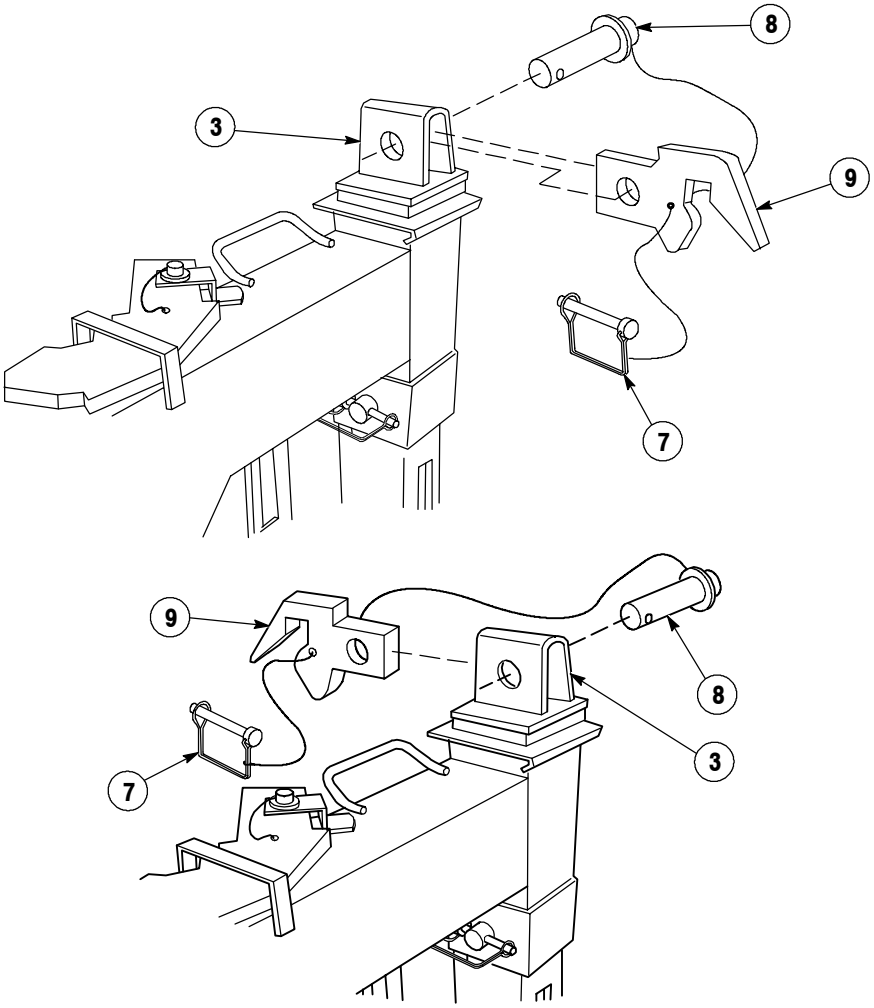


WARNING

LF weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

(1) Ensure two slide arm lower front hooks (1) are in stowed location on lifting frame (2).

(2) Ensure two slide arms (3) have pins (4) and lock pins (5) installed in lifting frame upper arms (6).



NOTE

There are two slide arms. Right side shown.

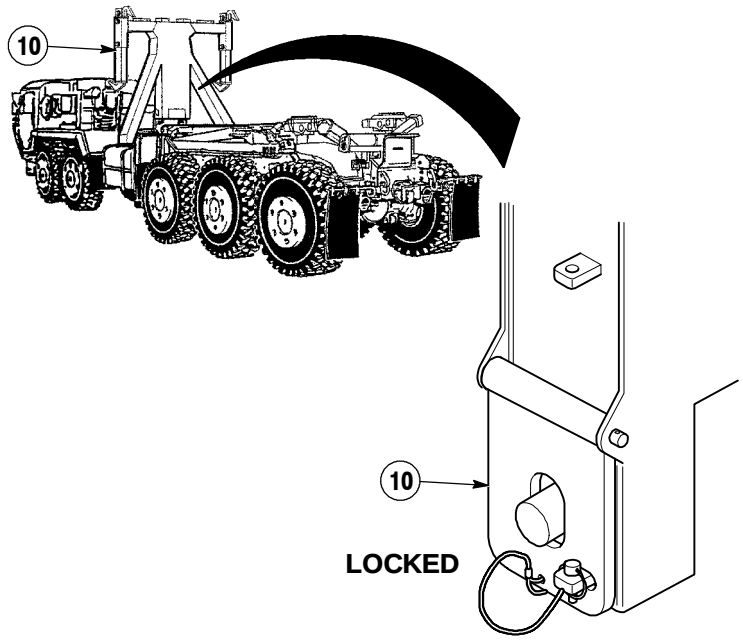
(3) Remove lock pin (7), pin (8), and slide arm upper front hook (9) from slide arm (3).

NOTE

Slide arm upper front hooks should face away from tires when in transport mode.

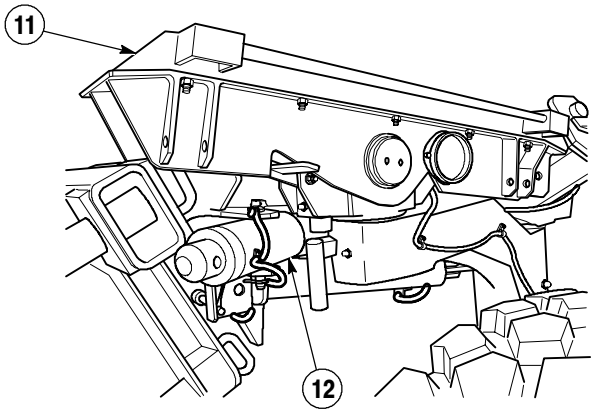
(4) Rotate slide arm upper front hook (9) 180 degrees and install in slide arm (3) with pin (8) and lock pin (7).

2-41. PREPARING PLS TRUCK WITH LIFTING FRAME FOR AIR TRANSPORT (CONT).



(5) Ensure lifting frame (10) is installed on PLS truck in container mode (Para 2-42).

(6) Ensure lifting frame (10) is in locked position, refer to (Para 2-37).



(7) Ensure sliders (11) and struts (12) are in stowed (flatrack mode) position, refer to (Para 2-38).

WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 17 ft. 2 in. (5.22 m). Injury or death could result if LHS contacts power lines.
- Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.

CAUTION

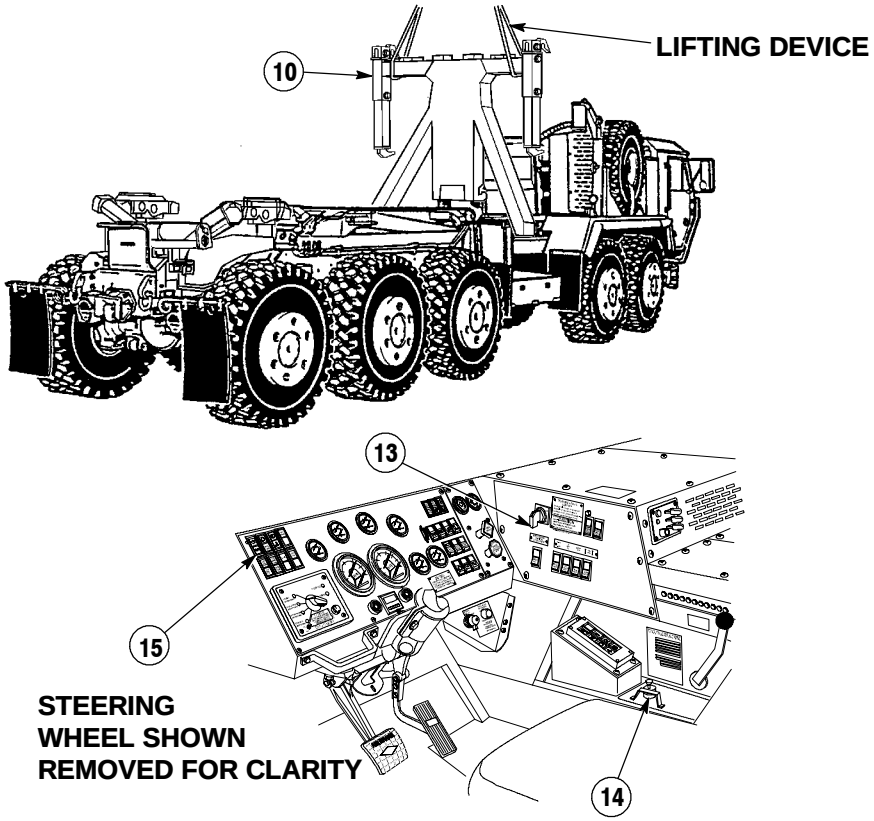
Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

NOTE

For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-loading a Flatrack in Auto Mode”.

(8) Start engine (Para 2-15).

2-41. PREPARING PLS TRUCK WITH LIFTING FRAME FOR AIR TRANSPORT (CONT).



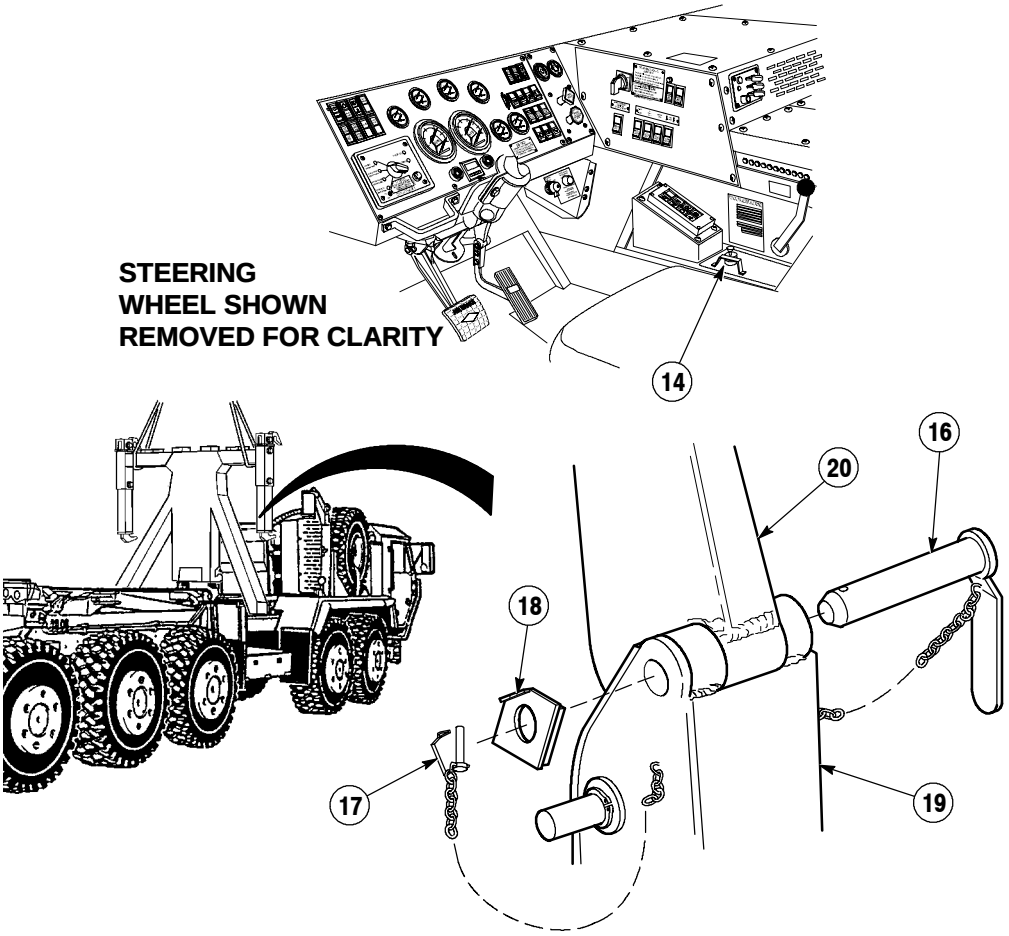
WARNING

- Do not allow lifting frame to contact the ground. Failure to comply may result in the lifting frame disengaging the LHS hook arm which could result in damage to equipment and injury or death to personnel.
- Lifting frame and hook weigh 1750 lbs. (793 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personal.

(9) Attach lifting device to lifting frame (10).

(10) Turn hydraulic selector switch (13) to AUTO.

(11) Move joystick (14) to UNLOAD. Hook arm will raise and begin to move rearward. LHS NO TRANS lamp (15) will illuminate to indicate hook arm is up and load lock has been cleared.



NOTE

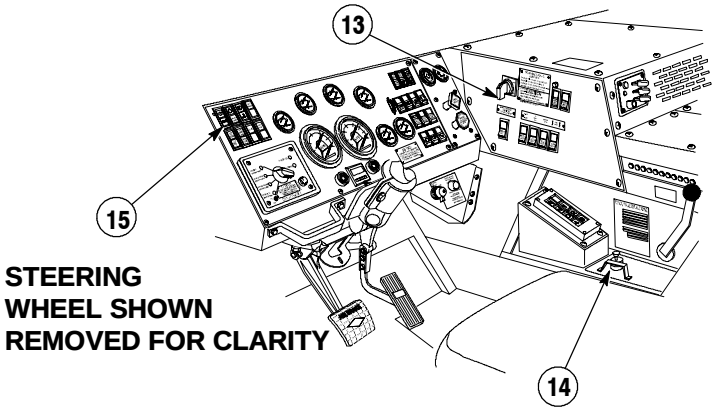
The position LHS and lifting frame need to be in to access the hook arm retaining pin will vary depending on the height of the operator.

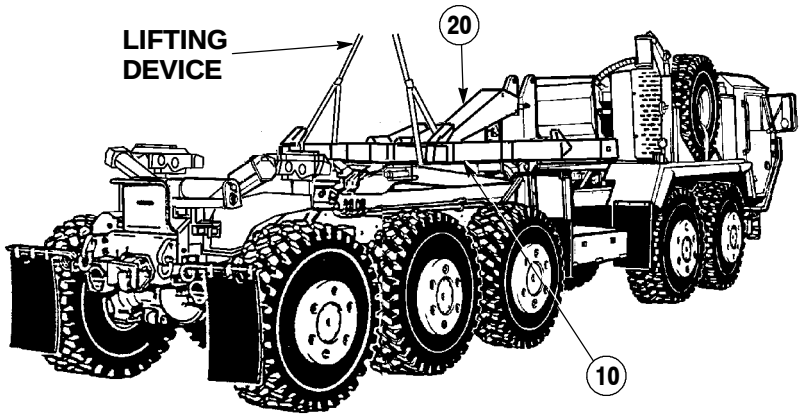
(12) Continue to hold joystick (14) to UNLOAD position until LHS hook arm retaining pin (16) can be removed.

(13) Release joystick (14).

(14) Remove lock pin (17), retaining bracket (18) and LHS hook arm retaining pin (16) from LHS hook arm (19) and hook (20).

2-41. PREPARING PLS TRUCK WITH LIFTING FRAME FOR AIR TRANSPORT (CONT).





(15) Move joystick (14) to LOAD, until LHS is fully stowed and LHS NO TRANS lamp (15) extinguishes.

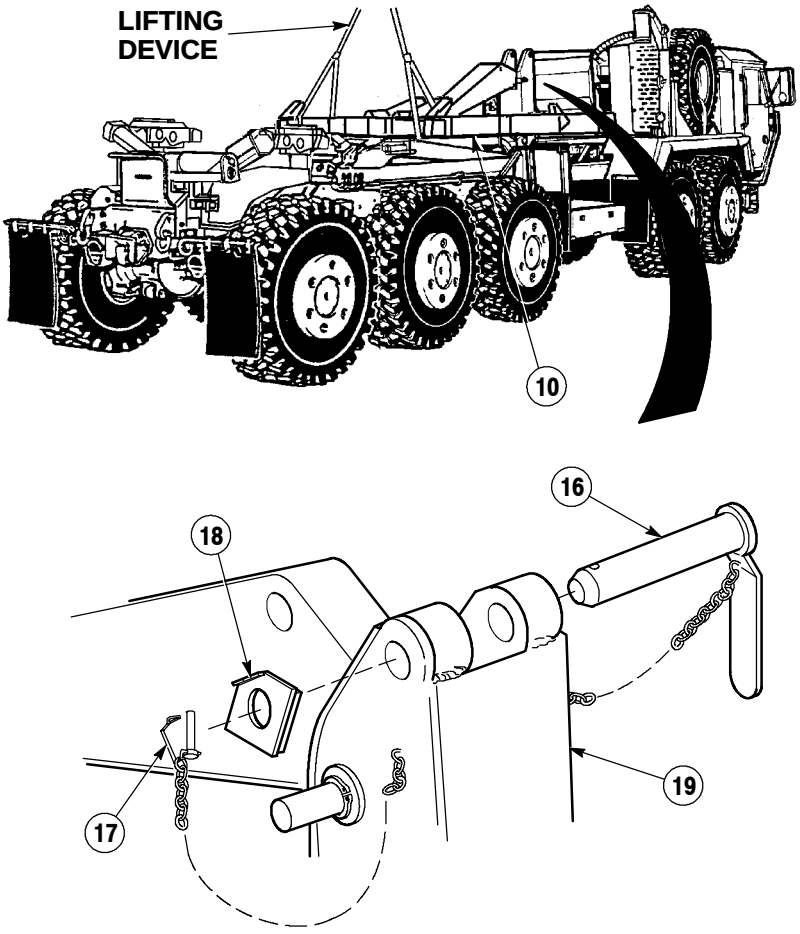
(16) Release joystick (14).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(17) Turn hydraulic selector switch (13) to OFF.

(18) With the aid of an assistant and using lifting device, lower lifting frame (10) and hook (20) on truck.

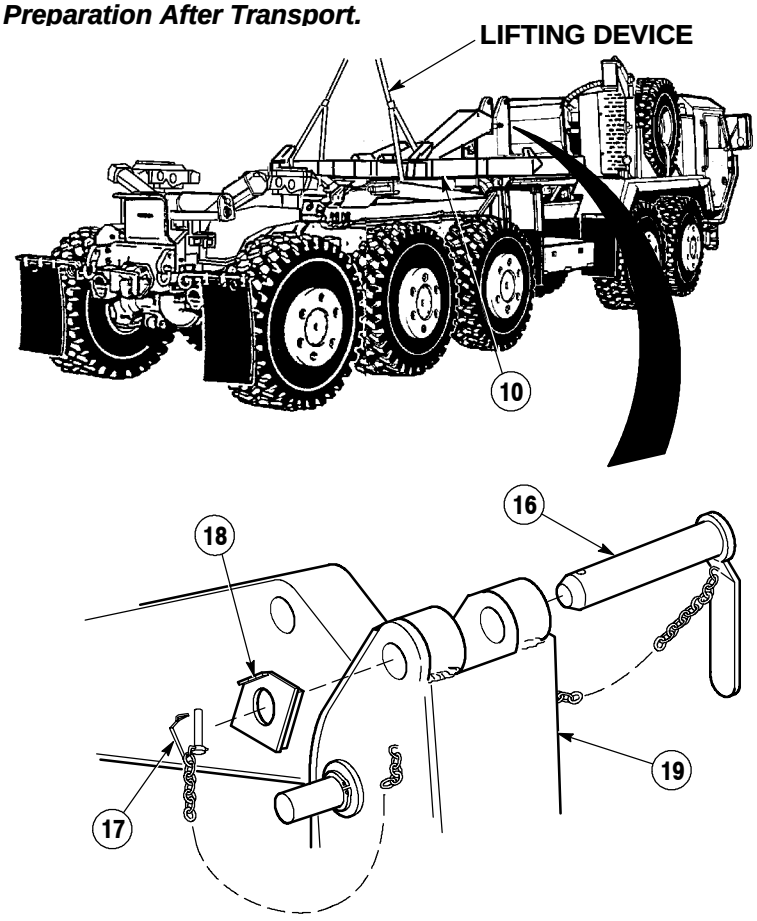


(19) Install LHS hook arm retaining pin (16), retaining bracket (18) and lock pin (17) in LHS hook arm (19).

(20) Remove lifting device from lifting frame (10).

2-41. PREPARING PLS TRUCK WITH LIFTING FRAME FOR AIR TRANSPORT (CONT).

b. Preparation After Transport.

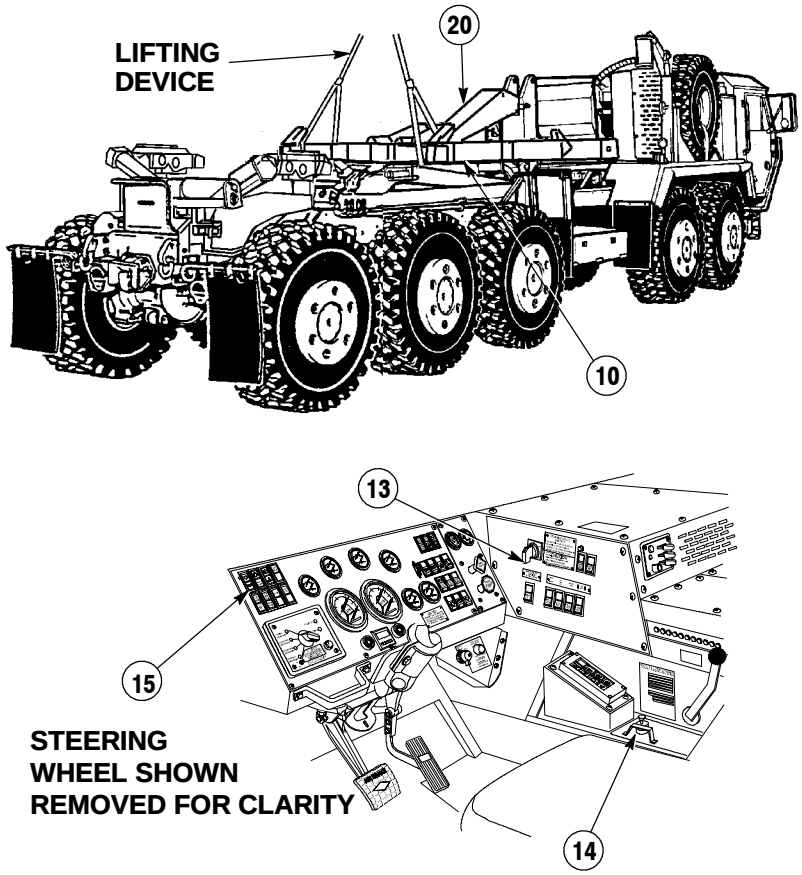


WARNING

- Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.
- Lifting frame and hook weigh 1700 lbs. (772 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personal.

(1) Attach lifting device to lifting frame (10).

(2) Remove lock pin (17), retaining bracket (18) and LHS hook arm retaining pin (16) from LHS hook arm (19).



(3) With the aid of an assistant and using lifting device, lift lifting frame (10) and hook (20) off truck.

CAUTION

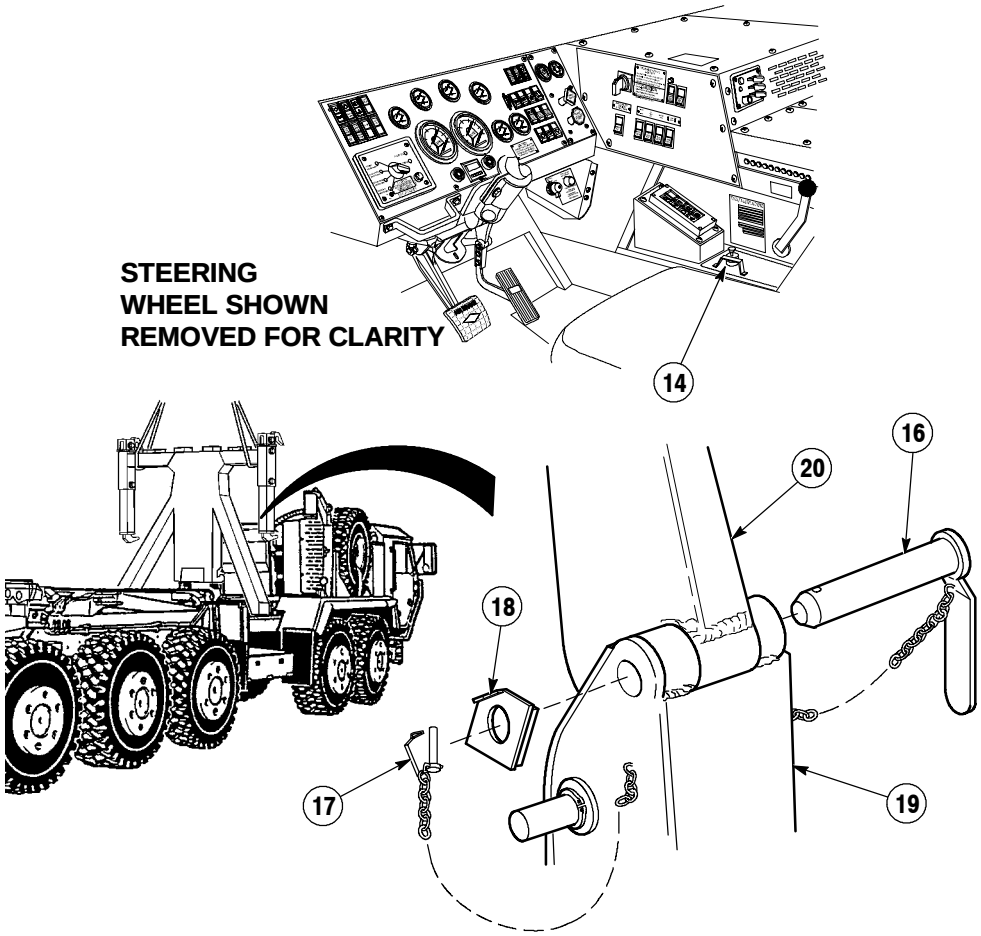
Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(4) Start engine (Para 2-15).

(5) Turn hydraulic selector switch (13) to AUTO.

(6) Move joystick (14) to UNLOAD. Hook arm will raise and begin to move rearward. LHS NO TRANS lamp (15) will illuminate to indicate hook arm is up and load lock has been cleared.

2-41. PREPARING PLS TRUCK WITH LIFTING FRAME FOR AIR TRANSPORT (CONT).



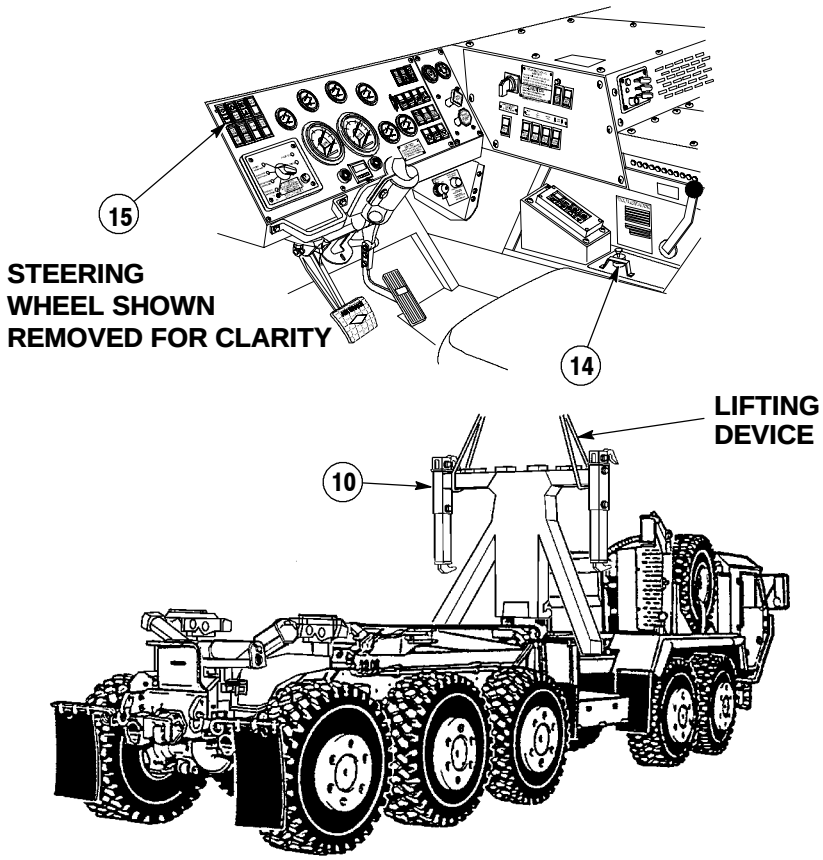
NOTE

The position LHS and lifting frame need to be in to access the hook arm retaining pin will vary depending on the height of the operator.

(7) Continue to hold joystick (14) to UNLOAD position until LHS hook arm retaining pin (16) can be installed.

(8) Release joystick (14).

(9) Install LHS hook arm retaining pin (16), retaining bracket (18) and lock pin (17) in LHS hook arm (19) and hook (20).



(10) Move joystick (14) to LOAD, until LHS is fully stowed and LHS NO TRANS lamp (15) extinguishes.

(11) Release joystick (14).

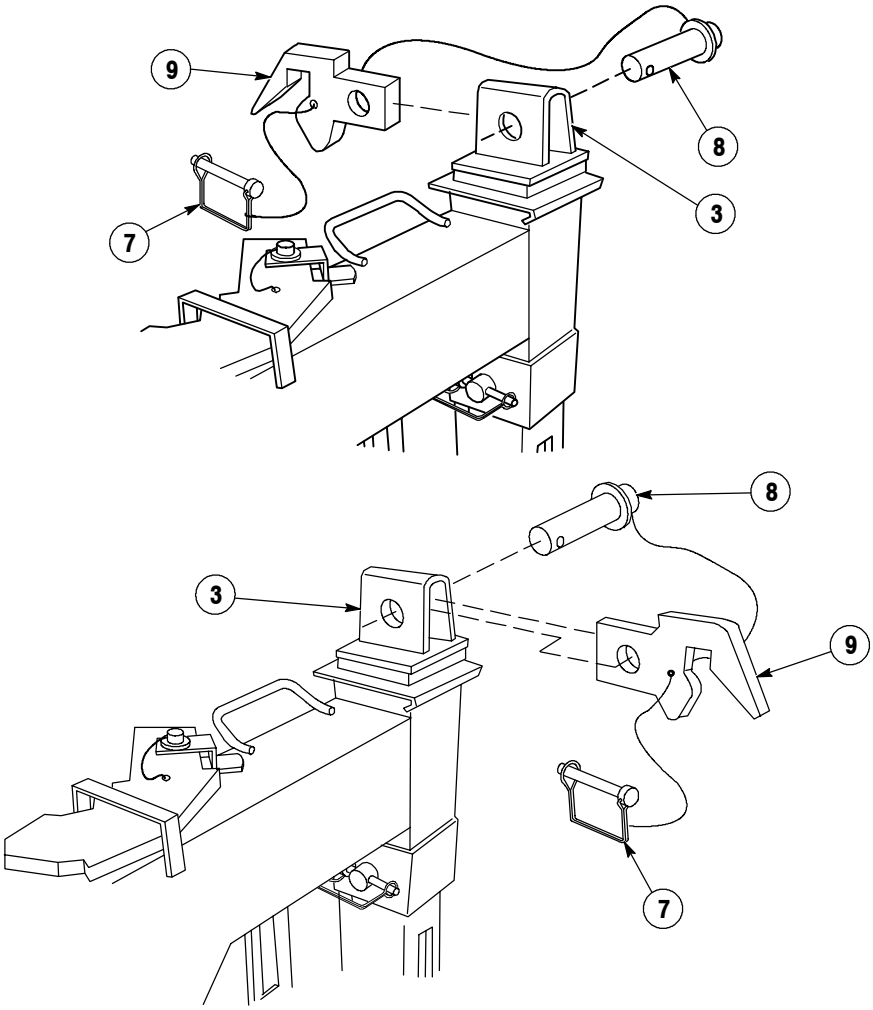
CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(12) Turn hydraulic selector switch (14) to OFF.

(13) Remove lifting device from lifting frame (10).

2-41. PREPARING PLS TRUCK WITH LIFTING FRAME FOR AIR TRANSPORT (CONT).



NOTE

There are two slide arms. Right side shown.

(14) Remove lock pin (7), pin (8), and slide arm upper front hook (9) from slide arm (3).

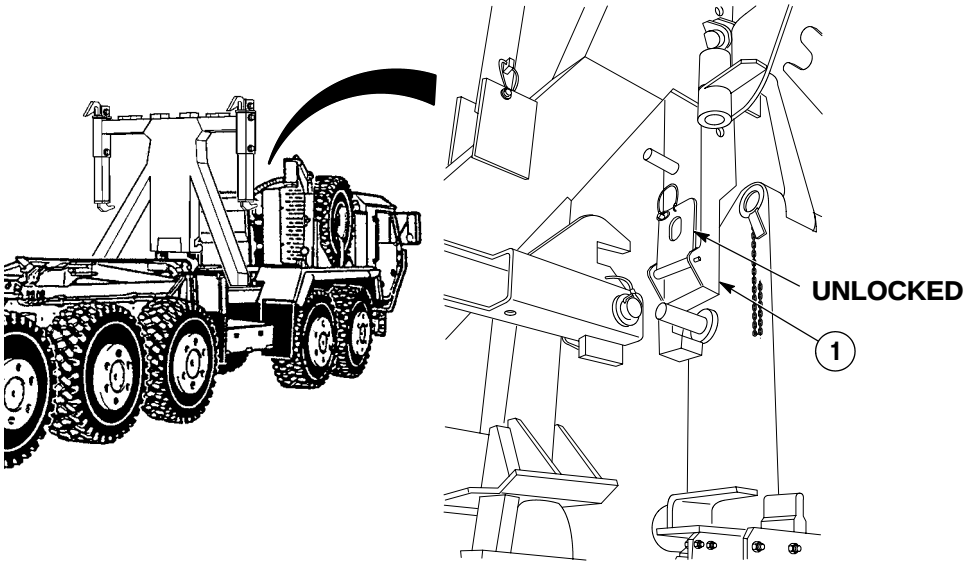
NOTE

Slide arm upper front hooks should face towards rear of truck.

(15) Rotate slide arm upper front hook (9) 180 degrees and install in slide arm (3) with pin (8) and lock pin (7).

2-42. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN CONTAINER MODE.

a. Removing Lifting Frame From PLS Truck in Container Mode.



WARNING

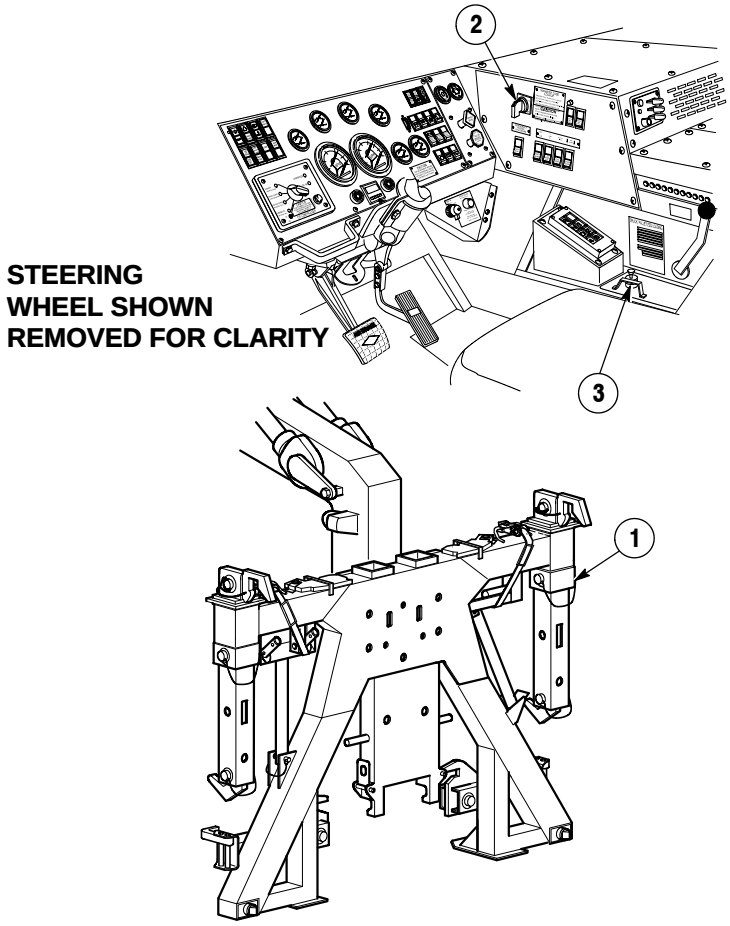
- Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.
- Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.
- Lifting frame must be unloaded on a flat level surface. Failure to comply may result in lifting frame tipping over unexpectedly causing injury or death to personnel.

NOTE

- Prepare an area to set lifting frame, ensure the area is accessible for the truck.
- Perform Step (1) if lifting frame is in locked position.

(1) Position lifting frame (1) in unlocked position (Para 2-37).

2-42. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN CONTAINER MODE (CONT).



CAUTION

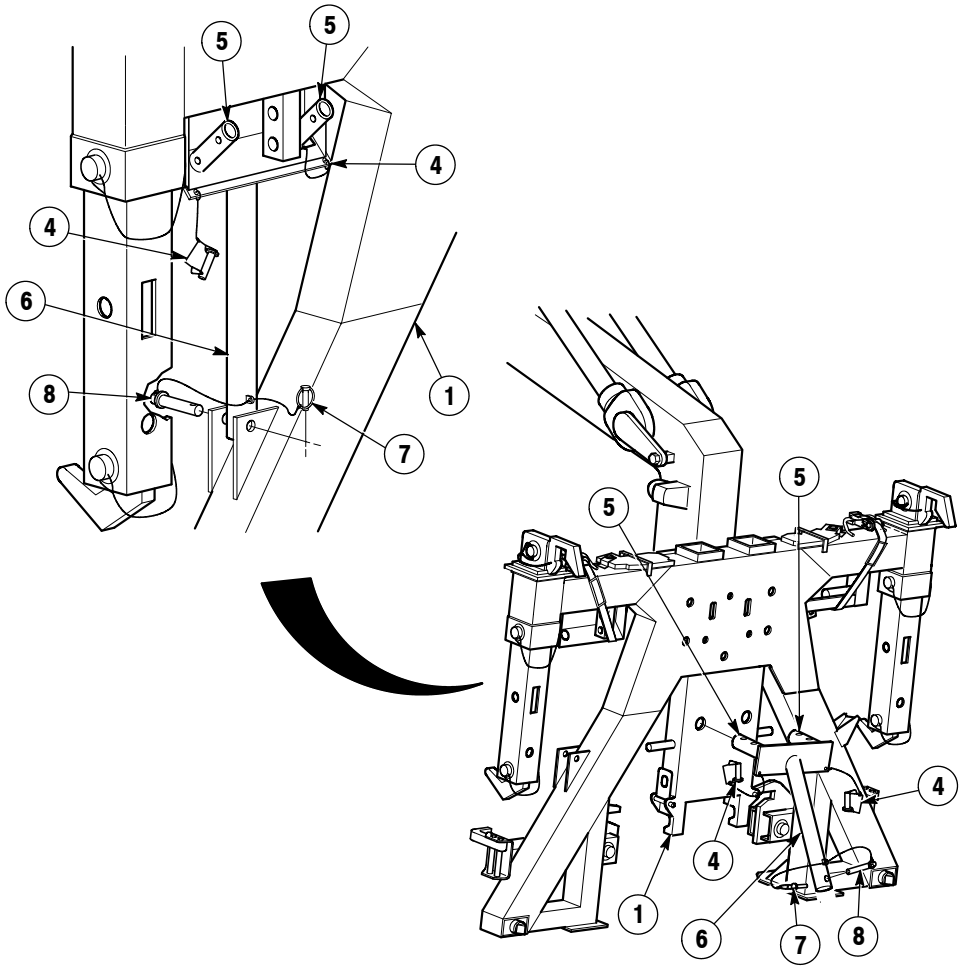
Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(2) Start engine (Para 2-15).

(3) Turn hydraulic selector switch (2) to AUTO.

(4) Move joystick (3) to UNLOAD until lifting frame (1) stops.

(5) Turn hydraulic selector switch (2) to MAN H.A. mode and lower lifting frame (1) until lifting frame is approximately 12 in. (30 cm) from the ground.



(6) Shut off engine (Para 2-23).

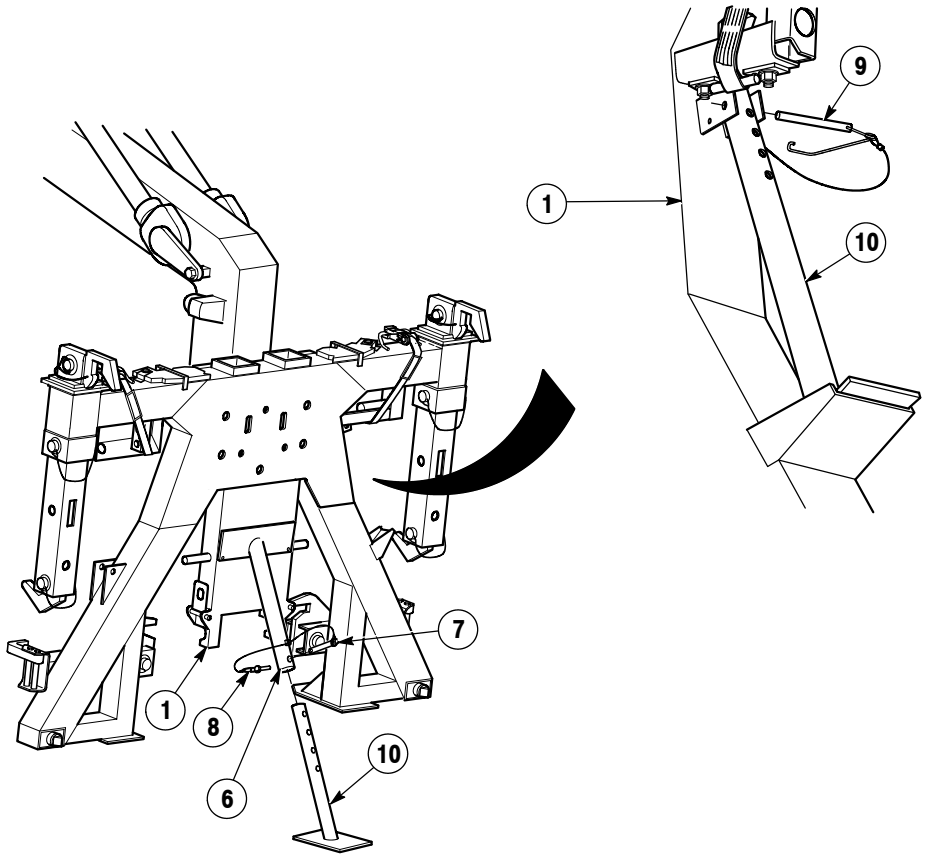
(7) Remove two lock pins (4) from pins (5) and upper support leg (6).

(8) Remove lock pin (7), pin (8) and upper support leg (6) from stowage bracket on lifting frame (1).

(9) Position two pins (5) on upper support leg (6) through two lower holes on lifting frame (1).

(10) Install two lock pins (4) in pins (5) on upper support leg (6) and front side of lifting frame (1).

2-42. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN CONTAINER MODE (CONT).



(11) Remove lock pin (9) and lower support leg (10) from stowage bracket on lifting frame (1).

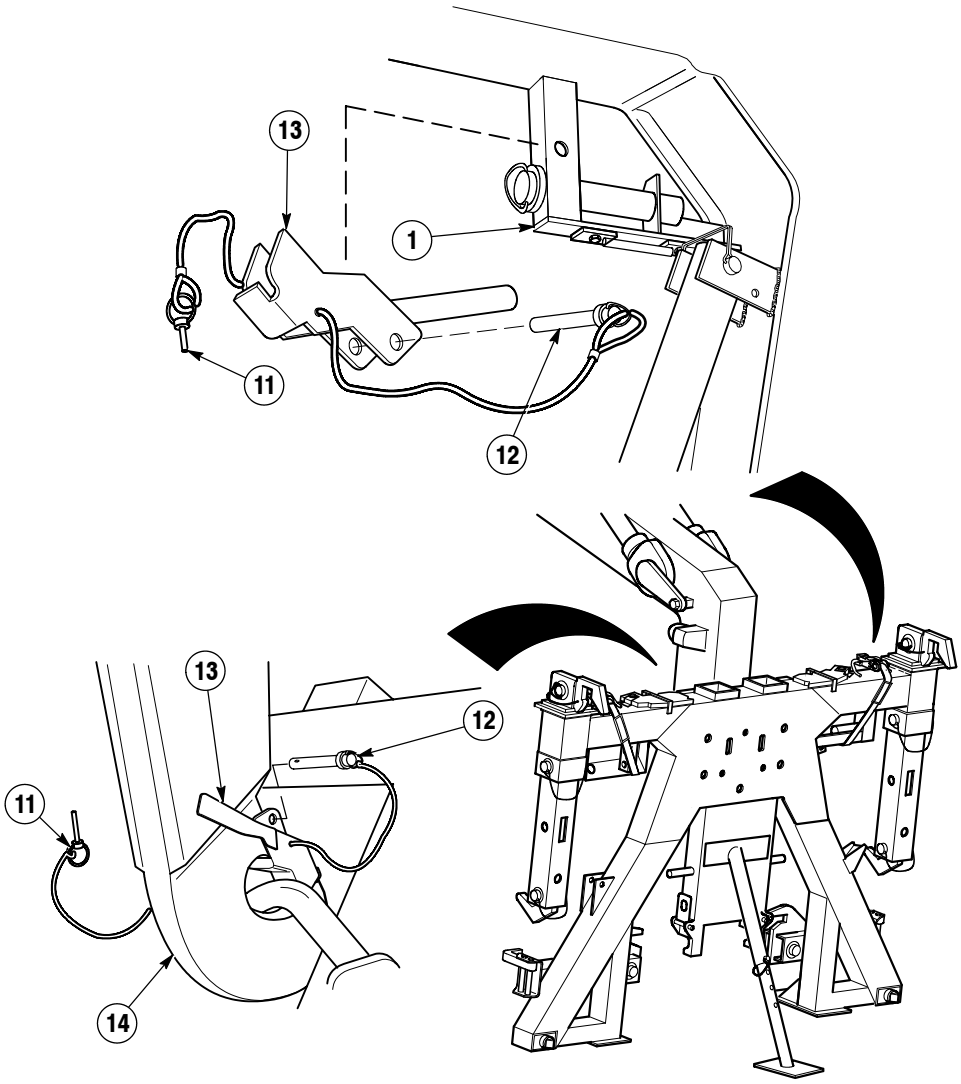
(12) Position lower support leg (10) in upper support leg (6).

NOTE

Other support leg pin hole positions may be used if ground is uneven.

(13) Align hole in upper support leg (6) with second hole from bottom on lower support leg (10) and install pin (8) and lock pin (7).

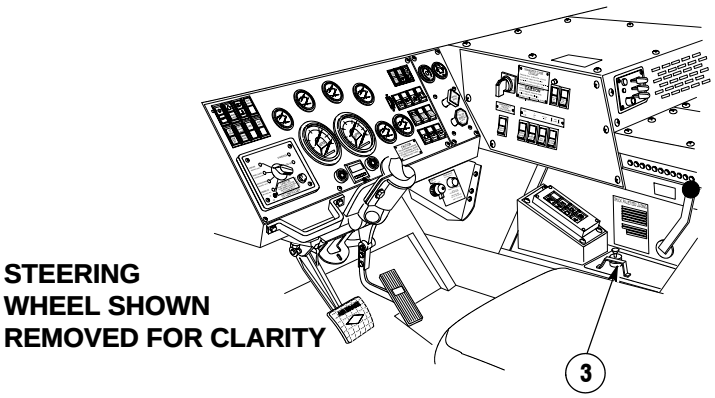
(14) Install lock pin (9) in stowage bracket on lifting frame (1).

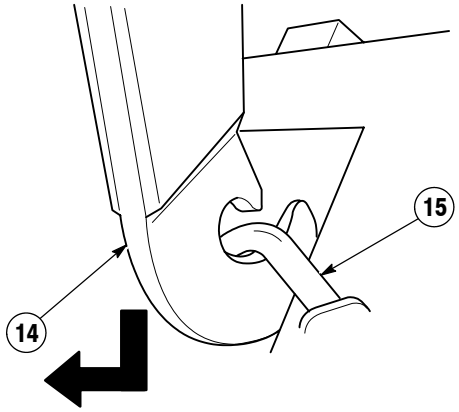


(15) Remove lock pin (11), pin (12) and bail bar lock (13) from hook (14).

(16) Install bail bar lock (13), pin (12) and lock pin (11) in stowage bracket on lifting frame (1).

2-42. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN CONTAINER MODE (CONT).





(17) Start engine (Para 2-15).

NOTE

- To disengage LHS hook arm from lifting frame hook it may be necessary to cycle LHS to unload after driving ahead slightly.
- If ground is soft, jacking plate from truck BII or similar item may be positioned under support leg pad to prevent lifting frame from sinking in ground.

(18) Move joystick (3) to UNLOAD until LHS stops and hook (14) is below lifting frame hook bar (15).

(19) Drive truck ahead approximately 12 in. (30 cm).

(20) Shut off engine (Para 2-23).

b. Installing Lifting Frame Onto PLS Truck in Container Mode.

WARNING

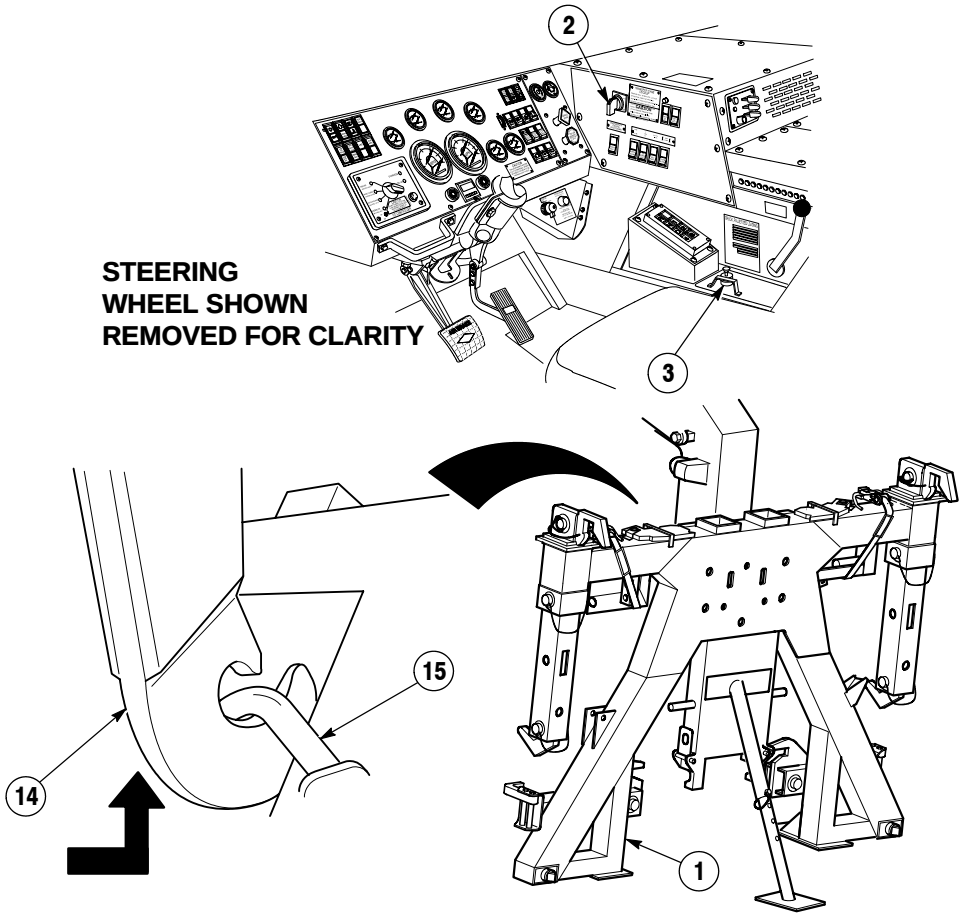
- Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.
- Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.
- Ensure lifting frame is free of snow, ice, and mud when installing on LHS. Lifting frame may be unbalanced and may cause injury or death to personnel.

NOTE

For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29) “Off-Loading Flatrack in Auto Mode”.

(1) Start engine (Para 2-15).

2-42. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN CONTAINER MODE (CONT).



(2) Move joystick (3) to LOAD until hook (14) is below lifting frame hook bar (15).

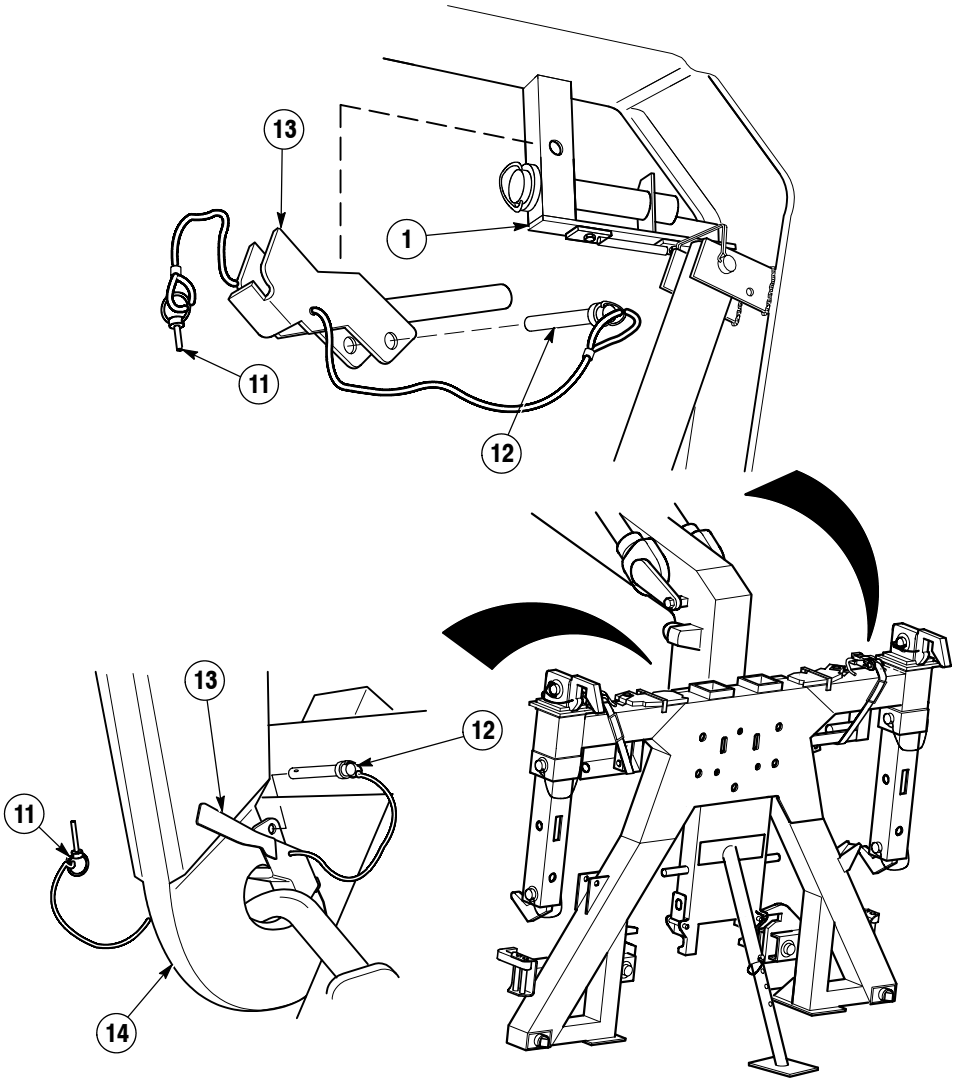
(3) Back up truck and engage hook bar (15) with hook (14).

CAUTION

Engine speed must be at idle before using hydraulic switch, or damage to equipment may result.

(4) Turn hydraulic selector switch (2) to AUTO mode.

(5) Move joystick (3) to LOAD and raise lifting frame (1) approximately 12 in. (30 cm) off of ground.

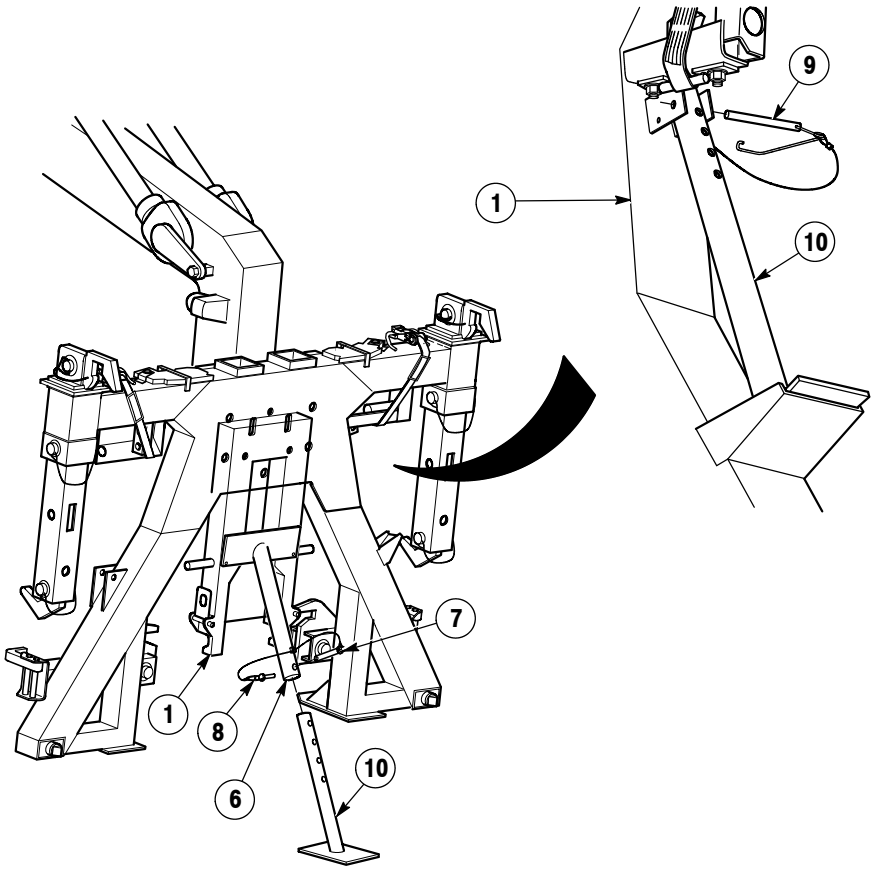


(6) Shut off engine (Para 2-23).

(7) Remove lock pin (11), pin (12) and bail bar lock (13) from stowage bracket on lifting frame (1).

(8) Install bail bar lock (13) on hook (14) with pin (12) and lock pin (11).

2-42. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN CONTAINER MODE (CONT).

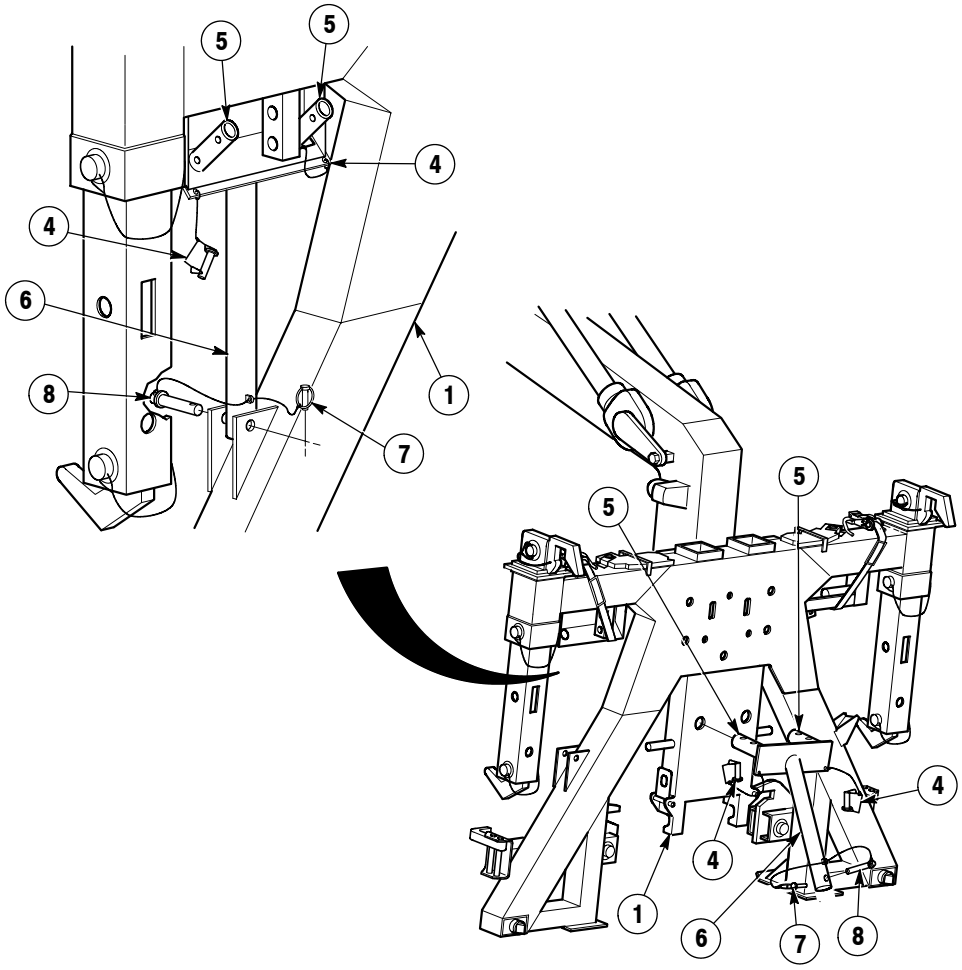


(9) Support lower support leg (10) and remove lock pin (7) and pin (8).

(10) Remove lower support leg (10) from upper support leg (6).

(11) Remove lock pin (9) from stowage bracket lifting frame (1).

(12) Position lower support leg (10) in stowage bracket on lifting frame (1) and install lock pin (9).



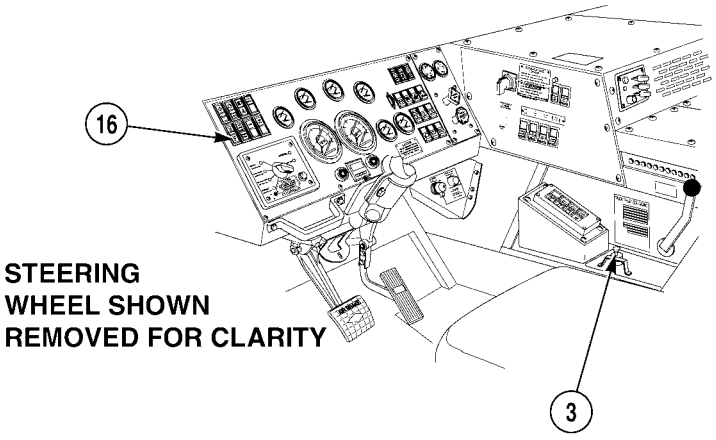
(13) Support upper support leg (6) and remove two lock pins (4) from pins (5).

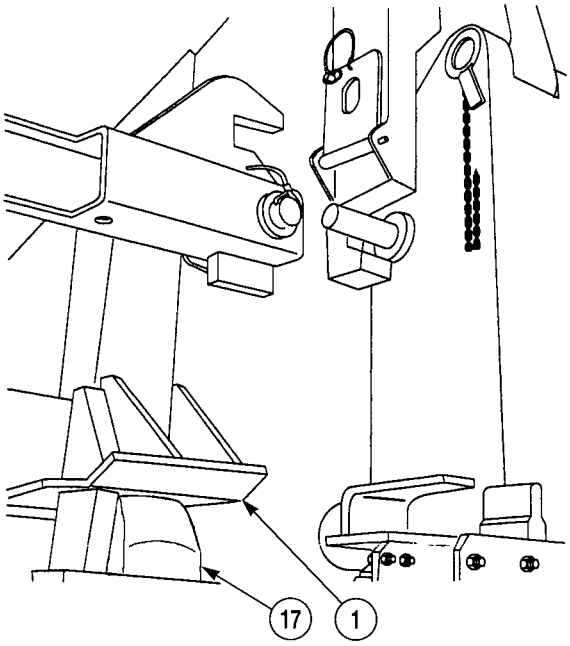
(14) Remove upper support leg (6) from lifting frame (1).

(15) Position upper support leg (6) in stowage bracket on lifting frame (1) and install two lock pins (4) on pins (5).

(16) Install pin (8), lock pin (7) and upper support leg (6) to stowage bracket on lifting frame (1).

2-42. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN CONTAINER MODE (CONT).



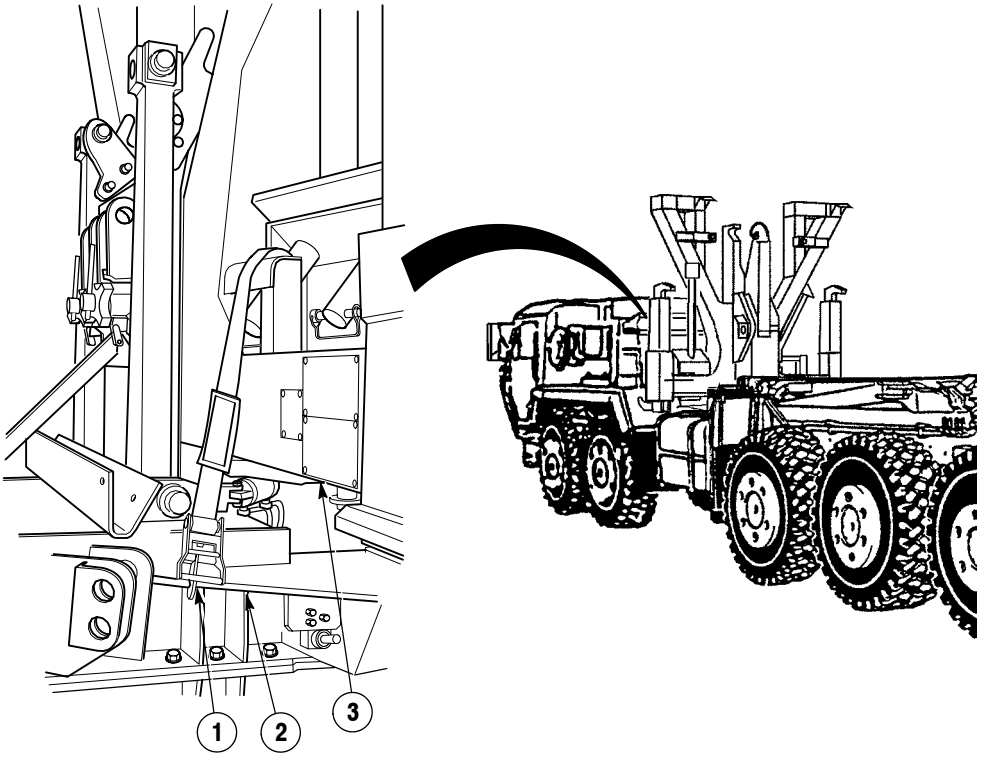


(17) Start engine (Para 2-15).

(18) Move joystick (3) to LOAD until LHS NO TRANS light (16) goes out and lifting frame (1) is positioned on bumper supports (17).

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE.

a. Removing Lifting Frame From PLS Truck in Flatrack Mode.



WARNING

- Check for overhead power lines or other obstructions before attempting CHU operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines
- Ensure engine is OFF and truck parking brake is ON before preparing PLS truck for container mode. Failure to comply may result in injury or death to personnel.

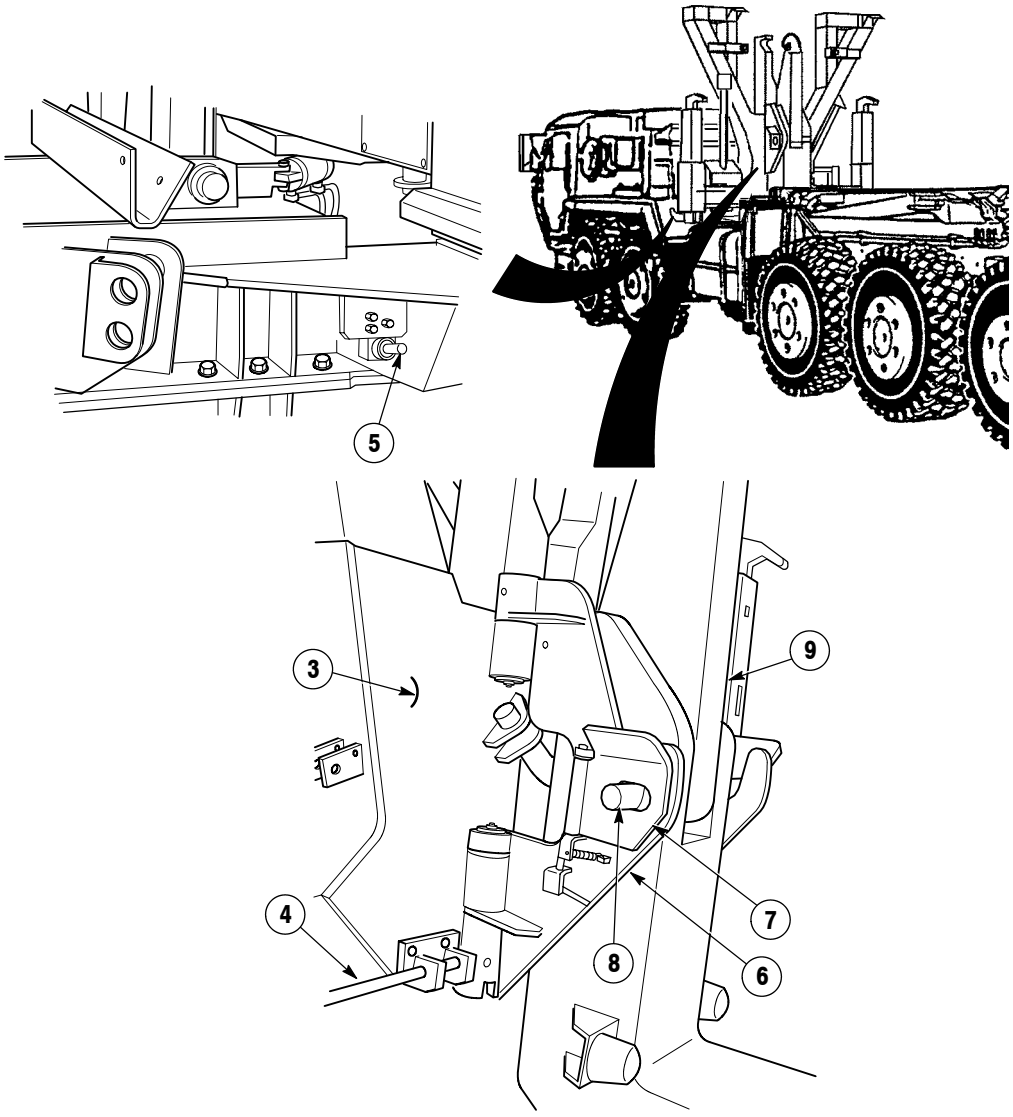
NOTE

There are two straps and flipper lock assemblies on lifting frame. Left side is shown.

(1) Remove strap (1) from rod on front support assembly (2).

(2) Stow strap (1) on lifting frame (3) stowbar.

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).



(3) Pull flipper lock pin handle (4) out and lift air valve lever (5) up to rotate flipper bracket (6) and flipper bracket lock plate (7) on pivot pin (8).

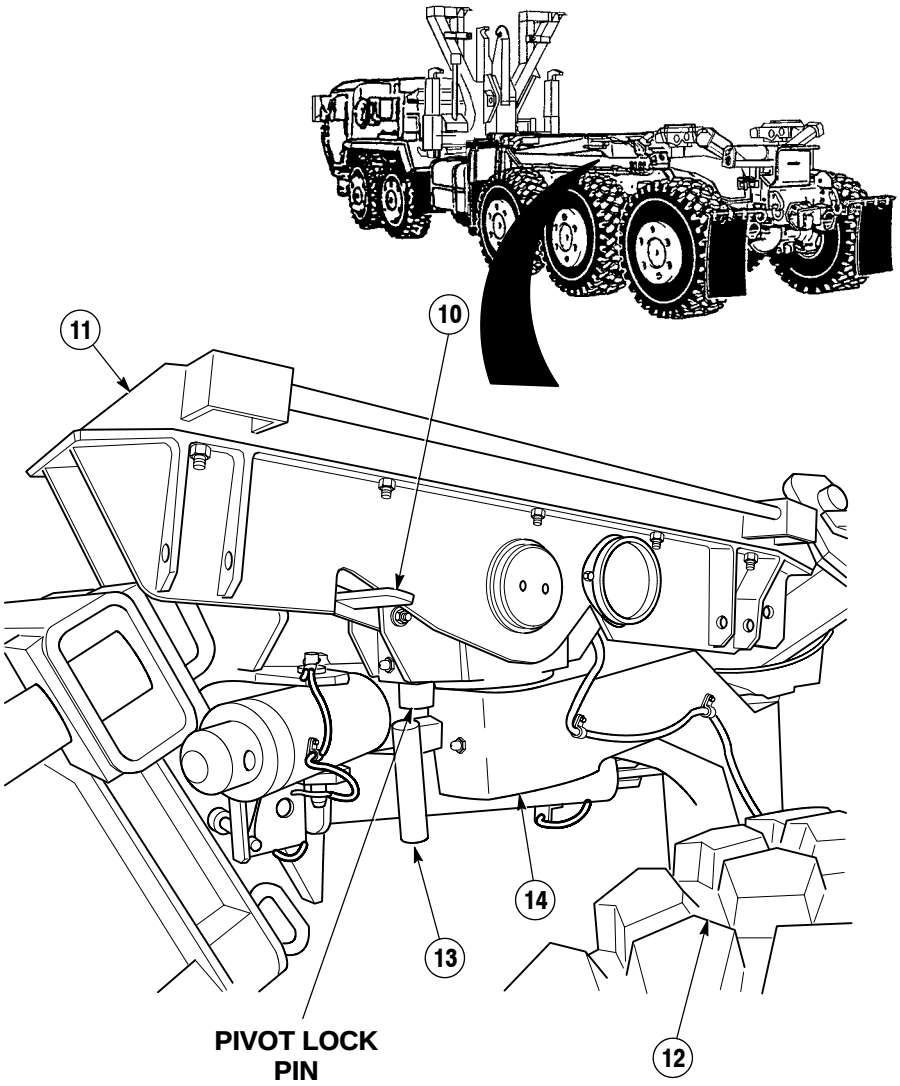
(4) Release flipper lock pin handle (4).

(5) Ensure flipper bracket (6) is positioned over pivot pin (8) on hook arm (9).

(6) Ensure flipper lock pin handle (4) is engaged in flipper bracket (6).

(7) Repeat Steps (3) and (5) if necessary.

(8) Repeat Steps (1) through (7) for right side flipper lock.



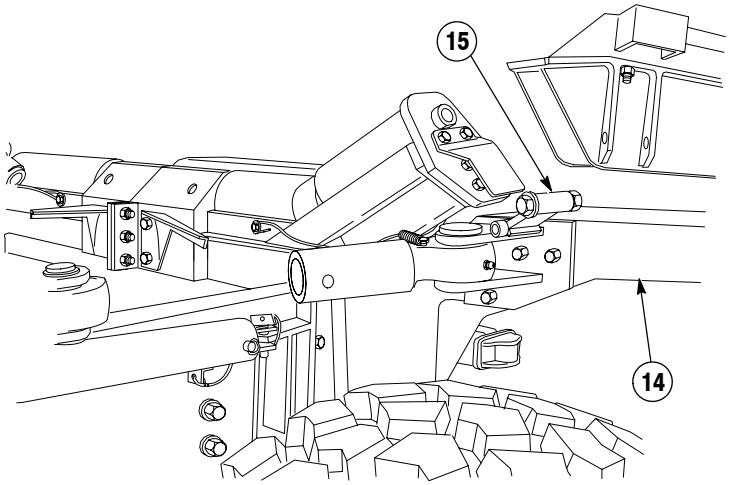
NOTE

There are two strut and slider assemblies. Left side is shown.

(9) Pull down pivot lock pin handle (10) and rotate by pulling rear end of slider (11) over tire (12) until pivot lock pin locks.

(10) Lift rear of slider (11) and using handle (13) rotate slider arm (14) outward.

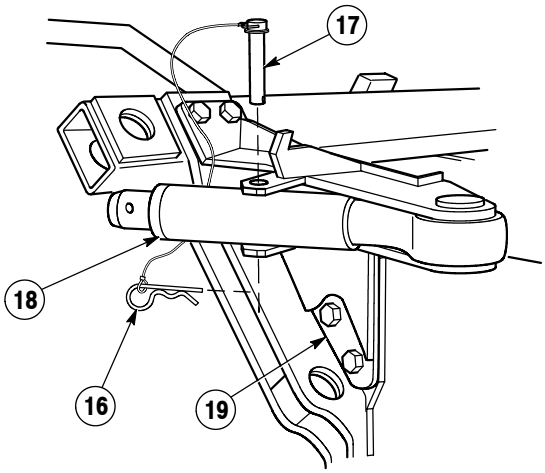
2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).



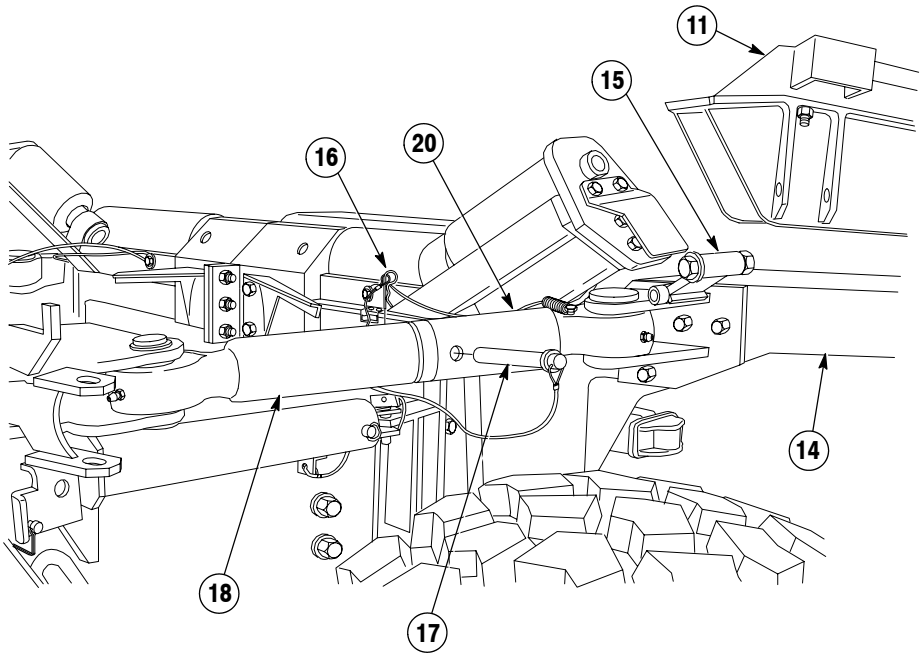
WARNING

Ensure fingers and hands are not between strut front and rear halves. Fingers and hands could become pinched during assembly causing injury to personnel.

(11) Rotate flip lock (15) up to hold slider arm (14). Release slider arm.



(12) Remove lock pin (16) and pin (17) from long strut (18) and stowage bracket (19).



(13) Align long strut (18) with short strut (20).

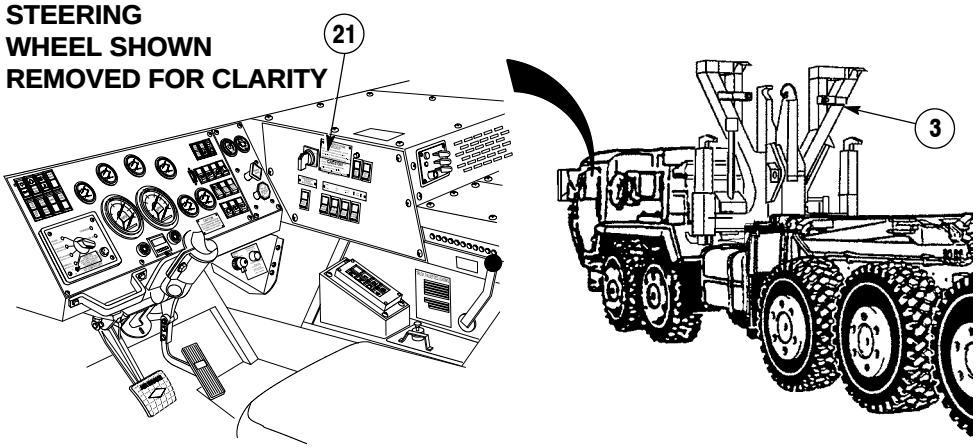
(14) Rotate slider arm (14) out with handle and disengage flip lock (15) by rotating it down.

(15) Position long strut (18) into short strut (20) and install pin (17) and lock pin (16). Ensure slider (11) is in straight ahead position.

(16) Repeat Steps (9) through (15) for right side.

(17) Start engine (Para 2-15).

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).



WARNING

- Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.
- Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.
- Lifting frame must be unloaded on a flat level surface. Failure to comply may result in lifting frame tipping over unexpectedly causing injury or death to personnel.

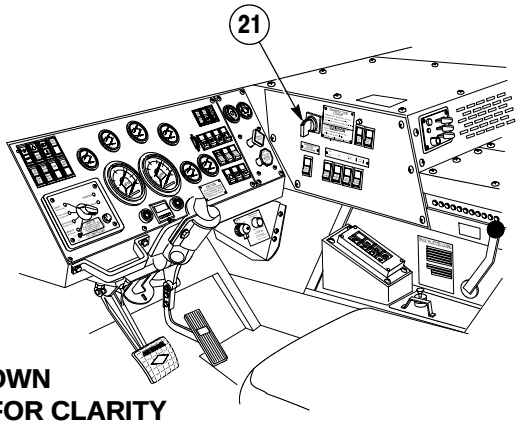
(18) Position truck for removal of lifting frame (3).

CAUTION

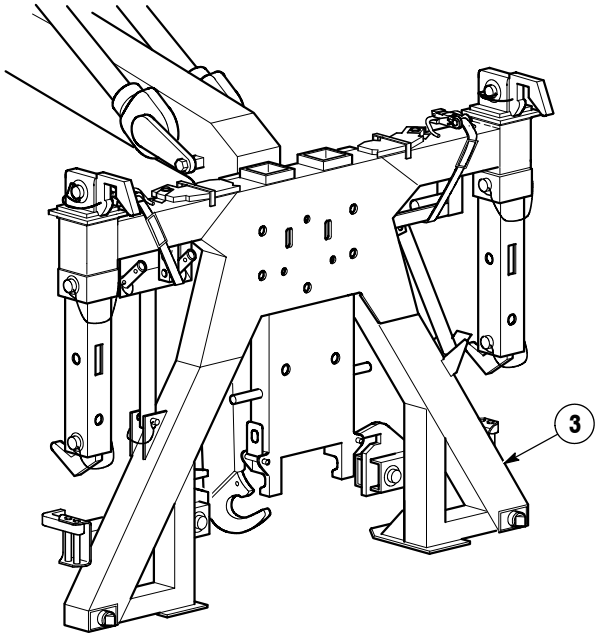
Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(19) Turn hydraulic selector switch (21) to AUTO.

(20) Operate LHS in AUTO mode until lifting frame (3) stops.



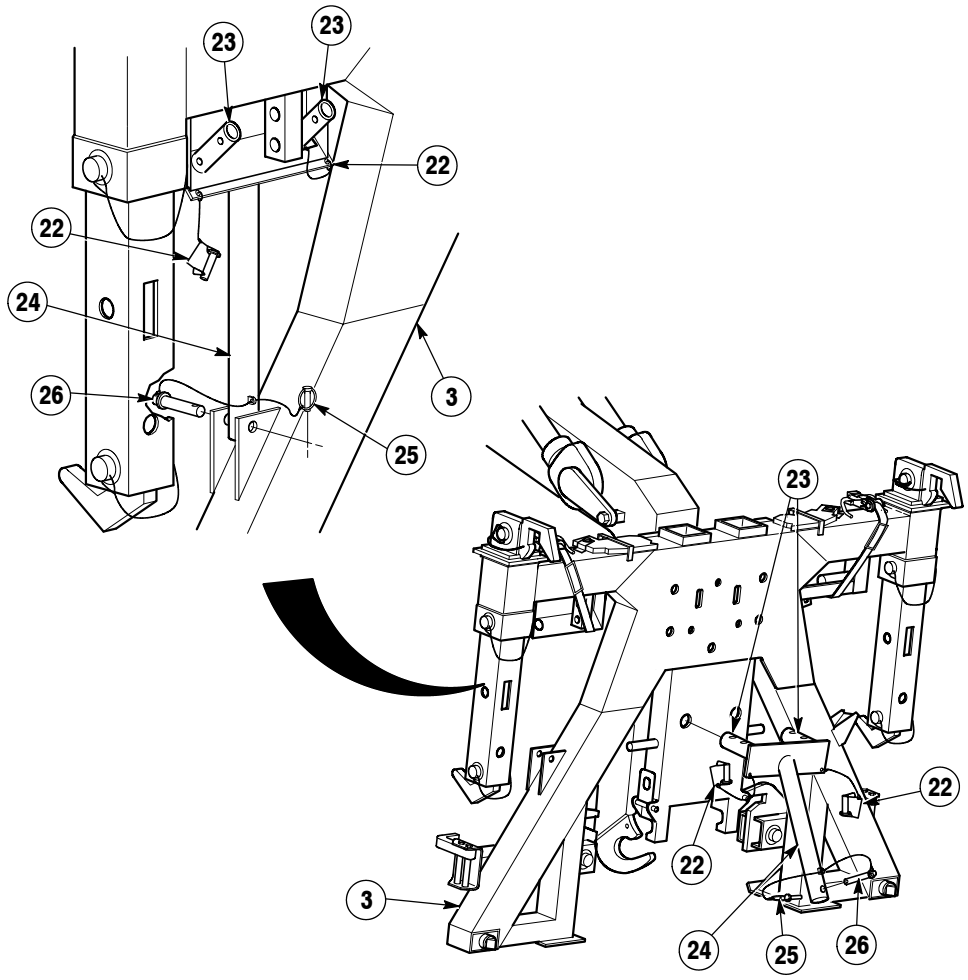
STEERING WHEEL SHOWN REMOVED FOR CLARITY



(21) Turn hydraulic selector switch (21) to MAN H.A. mode and lower until lifting frame (3) is approximately 12 in. (30 cm) from the ground.

(22) Shut OFF engine (Para 2-23).

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).

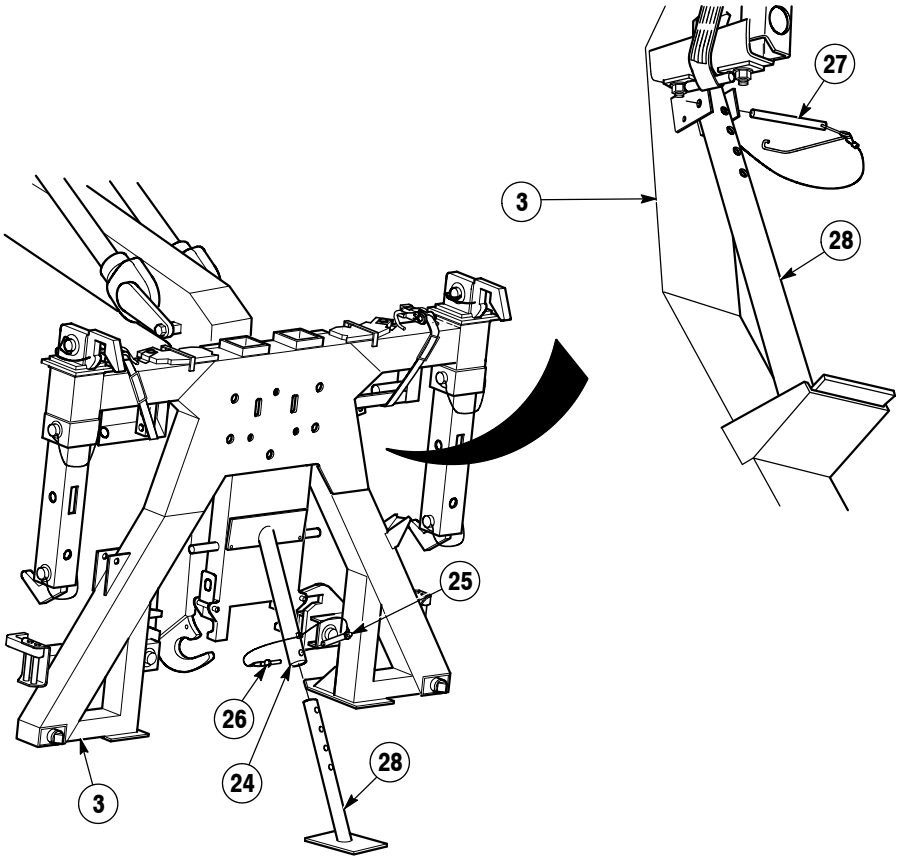


(23) Remove two lock pins (22), pins (23) from upper support leg (24).

(24) Remove lock pin (25), pin (26) and upper support leg (24) from stowage bracket on lifting frame (3).

(25) Position two pins (23) on upper support leg (24) through two lower holes on lifting frame (3).

(26) Install two lock pins (22) in pins (23) on front side of lifting frame.



(27) Remove lock pin (27) and lower support leg (28) from stowage bracket on lifting frame (3).

(28) Position lower support leg (28) in upper support leg (24).

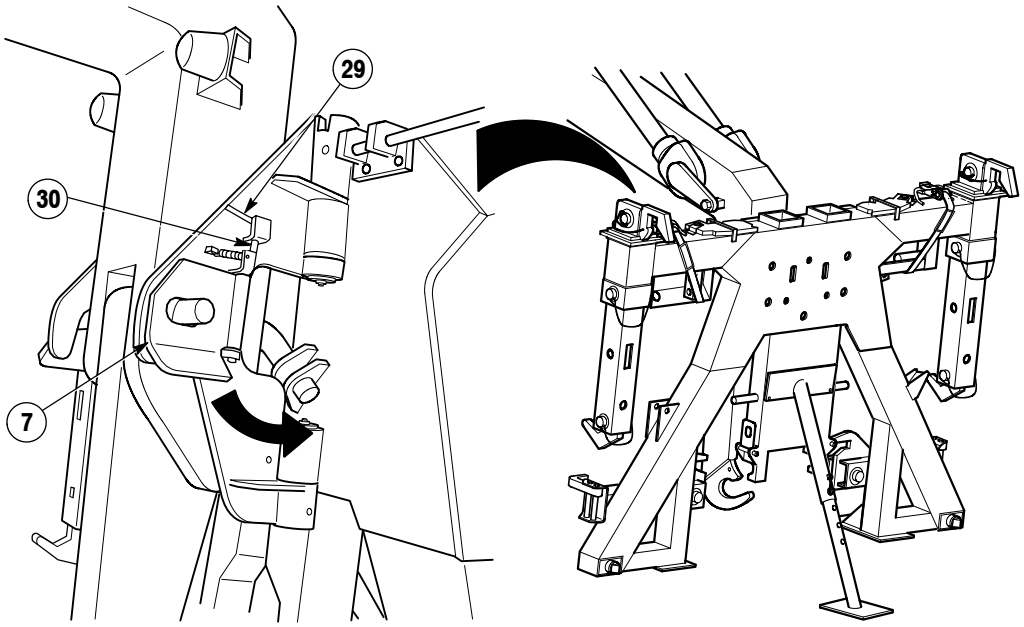
NOTE

Other support leg pin hole positions may be used if ground is uneven.

(29) Align hole in upper support leg (24) with second hole from bottom on lower support leg (28) and install pin (26) and lock pin (25).

(30) Install lock pin (27) in stowage bracket on lifting frame (3).

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).



(31) Lift pin handle (29) and release pin (30).

NOTE

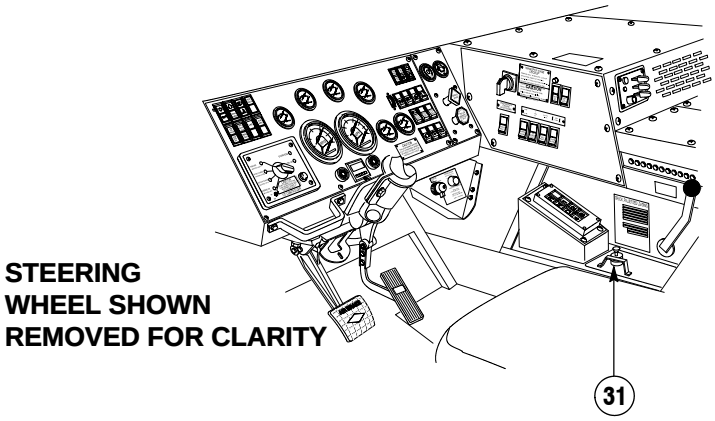
- If ground is soft, jacking plate from truck BII or similar item may be positioned under support leg pad to prevent lifting frame from sinking in ground.
- There are two flipper bracket lock plates on lifting frame. Left side is shown.

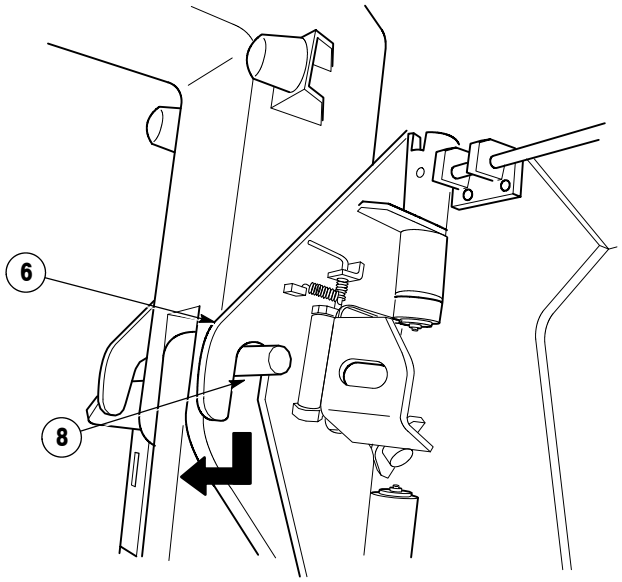
(32) Rotate flipper bracket lock plate (7) out to unlocked position and release pin handle (29).

(33) Ensure pin (30) is locked in flipper bracket lock plate (7).

(34) Repeat Steps (31) through (33) for right side.

(35) Start engine (Para 2-15).





(36) Move joystick (31) to UNLOAD until LHS stops and pivot pin (8) is below flipper bracket (6).

(37) Drive truck ahead approximately 12 in. (30 cm).

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).

b. Installing Lifting Frame Onto PLS Truck in Flatrack Mode.

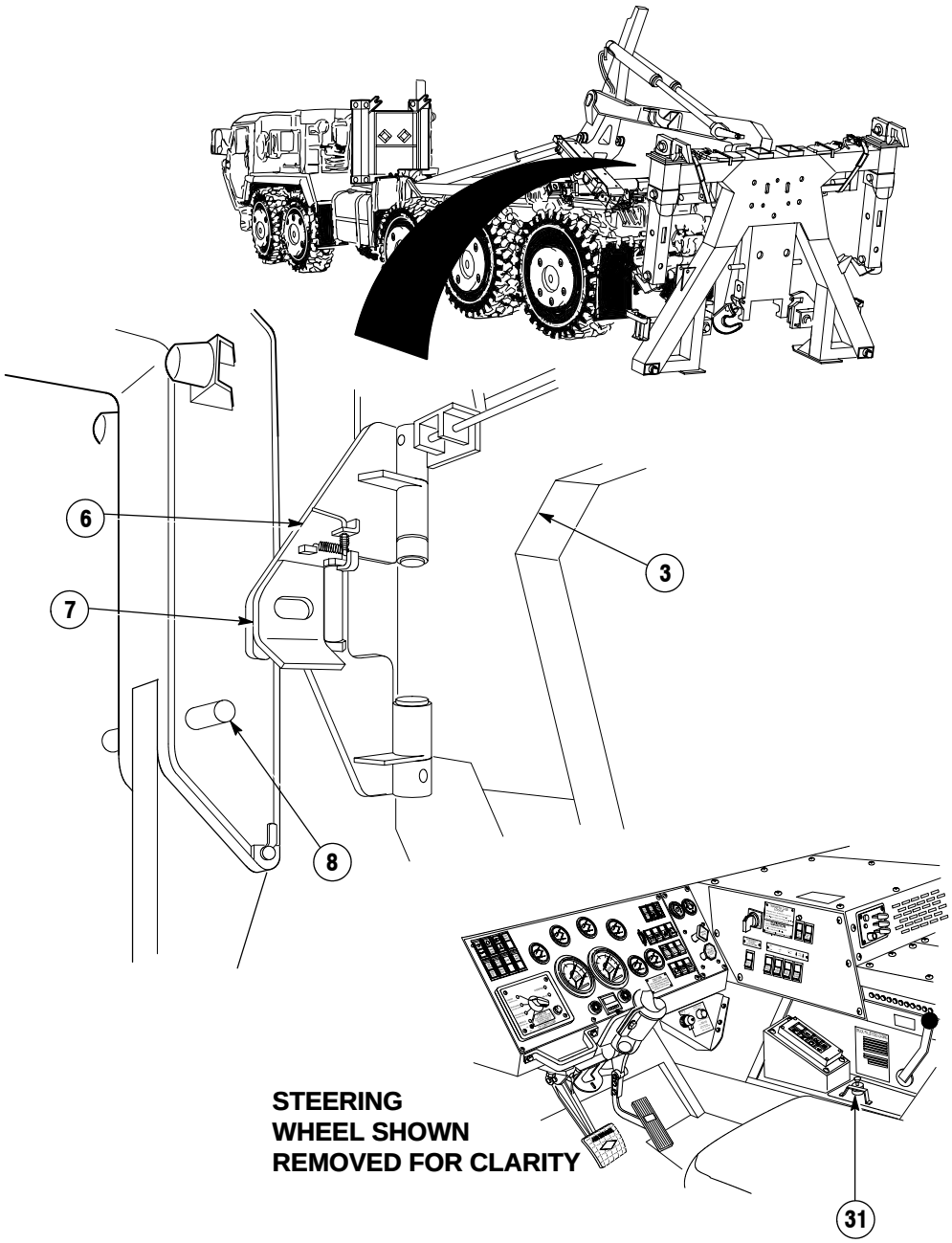
WARNING

- Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.
- Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.
- Ensure lifting frame is free of snow, ice, and mud when installing on LHS. Lifting frame may be unbalanced and may cause injury or death to personnel.

NOTE

- For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-Loading Flatrack in Auto Mode”.
- Ensure truck is in container mode (Para 2-32).

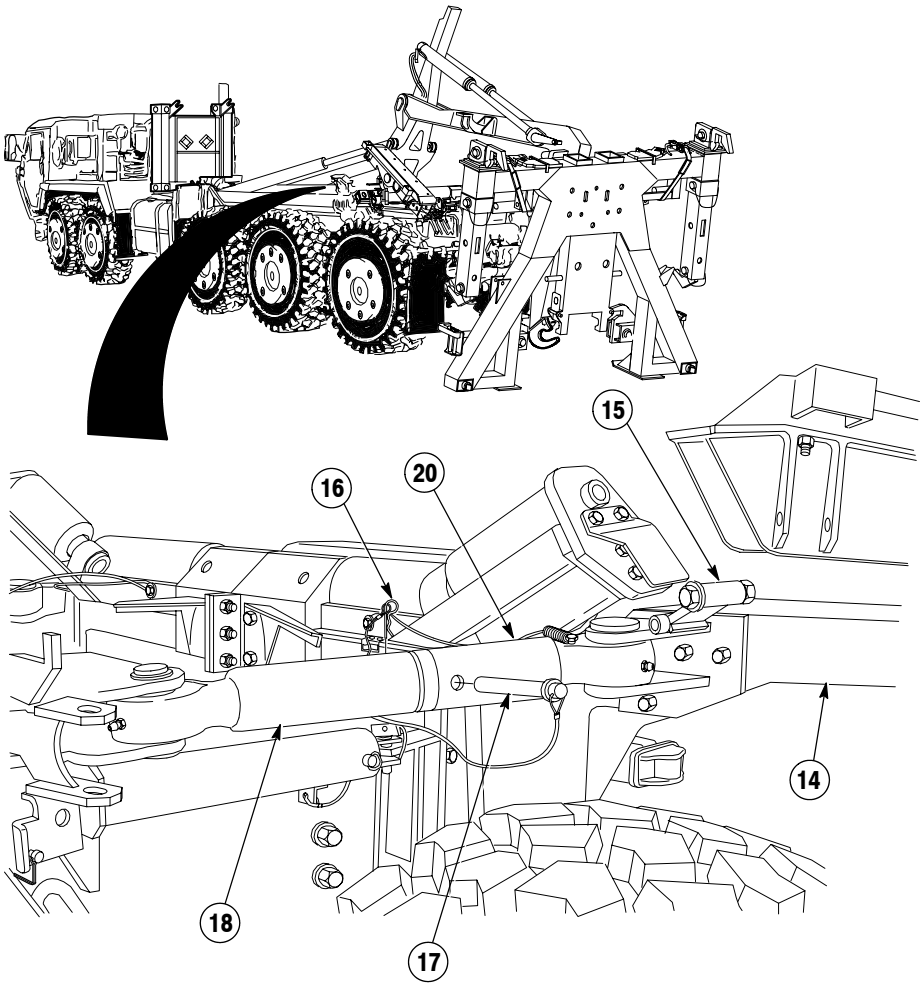
(1) Start engine (Para 2-15).



(2) Move joystick (31) to UNLOAD until LHS stops and pivot pin (8) is below flipper bracket (6) and flipper bracket lock plate (7) on lifting frame (3).

(3) Shut OFF engine (Para 2-23).

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).



NOTE

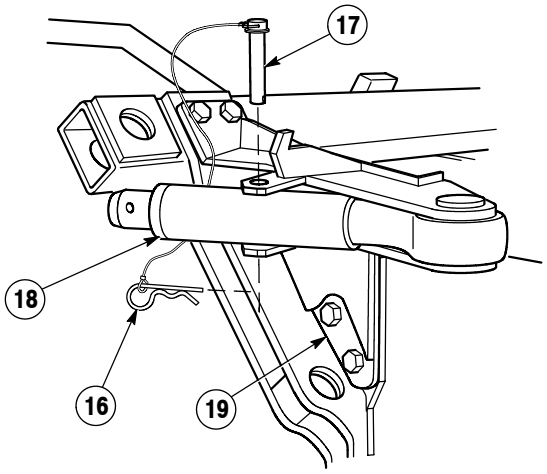
There are two strut and slider assemblies on PLS truck. Left side is shown.

(4) Remove lock pin (16) and pin (17) from short strut (20) and long strut (18).

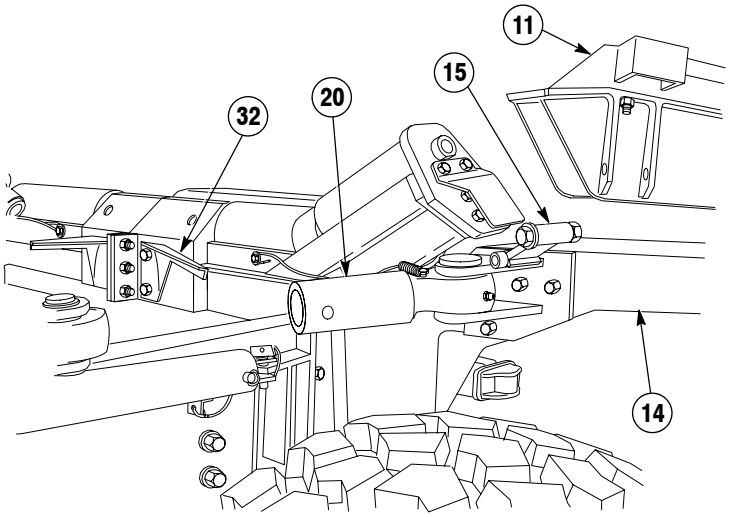
(5) Rotate slider arm (14) with handle out to separate short strut (20) and long strut (18).

(6) Position flip lock (15) up to hold slider arm (14) out.

(7) Release slider arm (14).



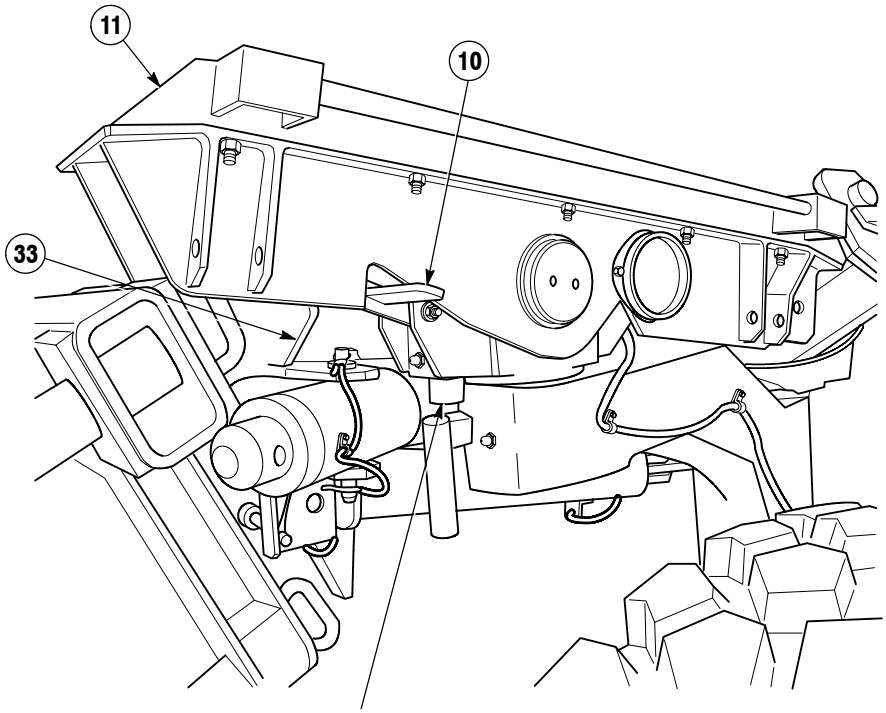
(8) Position long strut (18) on stowage bracket (19) and install pin (17) and lock pin (16).



(9) Rotate slider arm (14) out with handle and disengage flip lock (15) by rotating it down.

(10) Rotate slider arm (14) forward and front of slider (11) down and position short strut (20) on stowage pin (32).

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).



WARNING

Ensure not to hold on to front of slider when stowing. Hands and fingers may be pinched between front of slider and hard lift bracket causing injury to personnel.

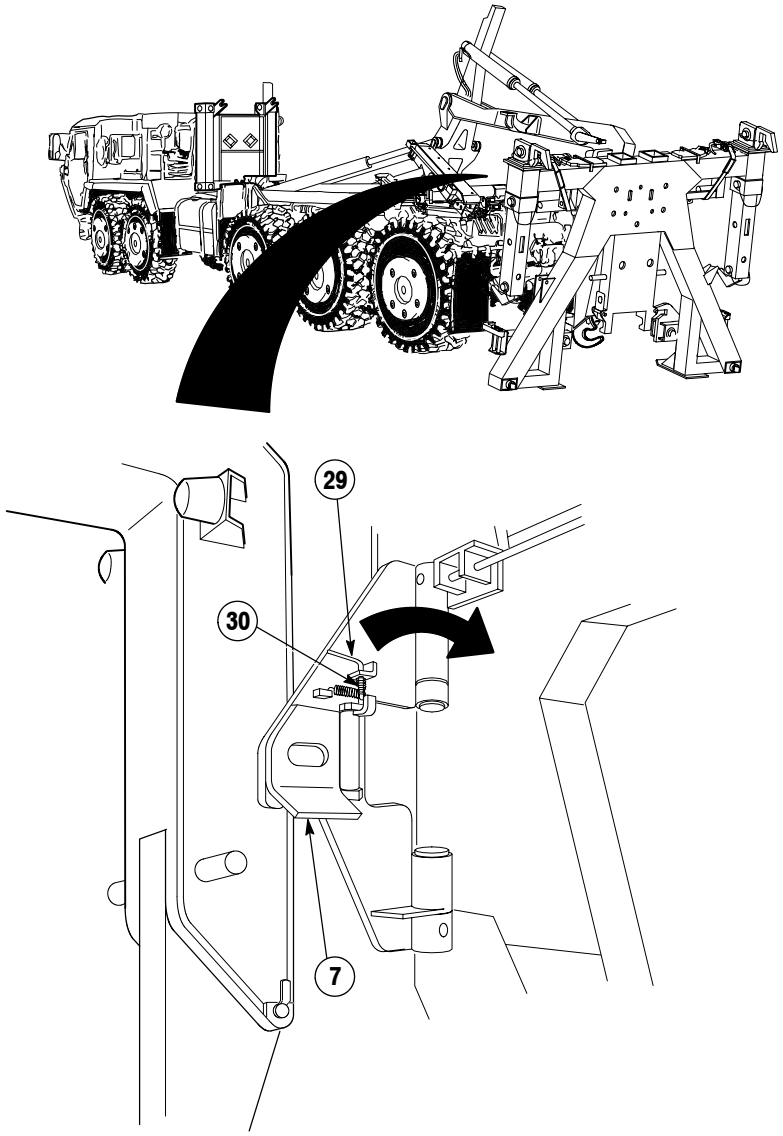
NOTE

Rear of slider may have to be pulled out slightly to position front of slider on retaining bracket.

(11) Pull down pivot lock pin handle (10), lift rear of slider (11) and rotate front of slider over retaining plate (33) until pivot lock pin locks.

(12) Release pivot lock pin handle (10).

(13) Repeat Steps (4) through (12) for right side.



NOTE

There are two flipper bracket lock plates on lifting frame. Left side shown.

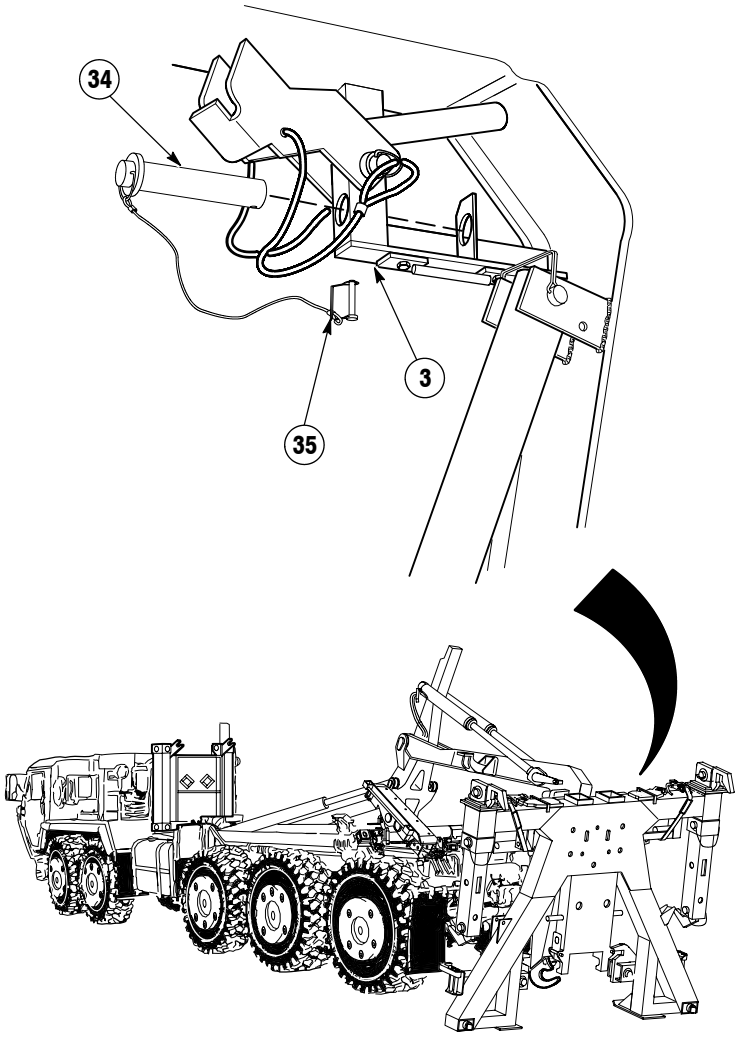
(14) Lift pin handle (29) and release pin (30).

(15) Rotate pin handle (29) to unlocked position and release pin handle.

(16) Ensure flipper bracket lock plate (7) moves freely.

(17) Repeat Steps (14) through (16) for right side.

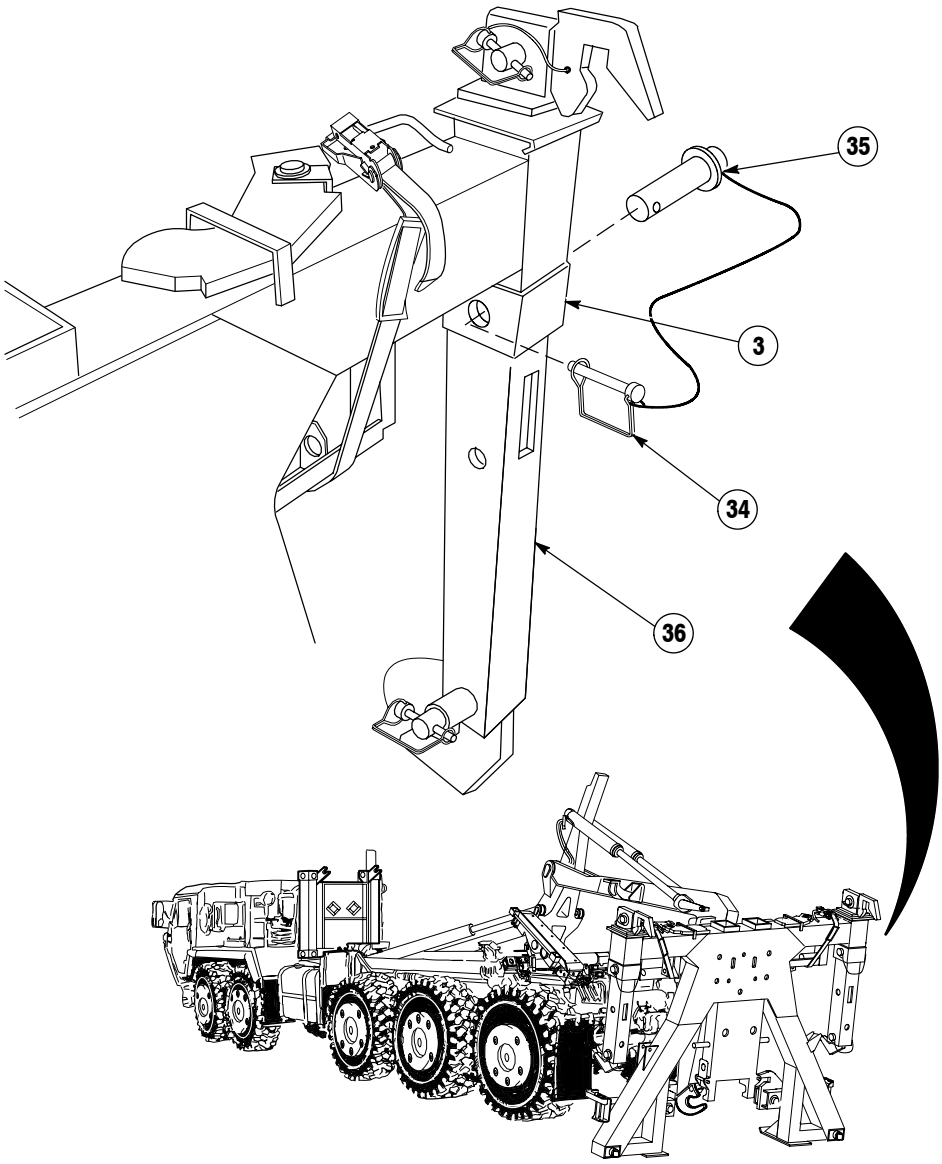
2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).



NOTE

There are two flipper bracket lock plates on lifting frame. Left side shown.

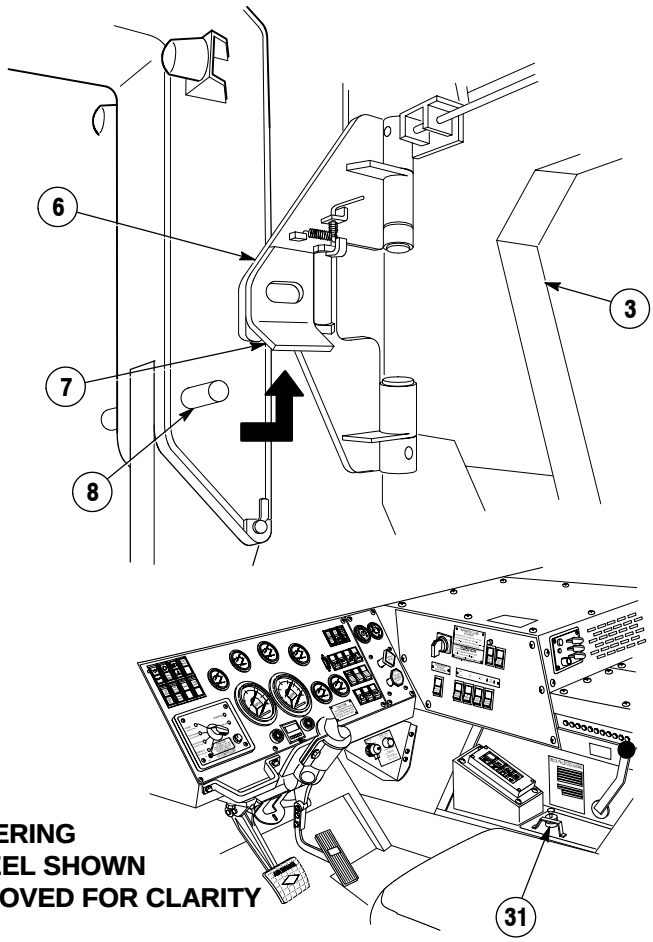
(18) Remove lock pin (34) and pin (35) from stow position on lifting frame (3).



(19) Install pin (35) and lock pin (34) in lifting frame (3) and slide arm (36) in upper hole.

(20) Repeat Steps (18) and (19) for left side.

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).



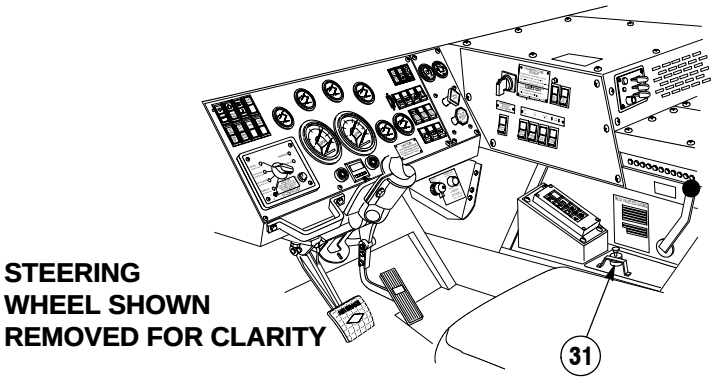
(21) Start engine (Para 2-15).

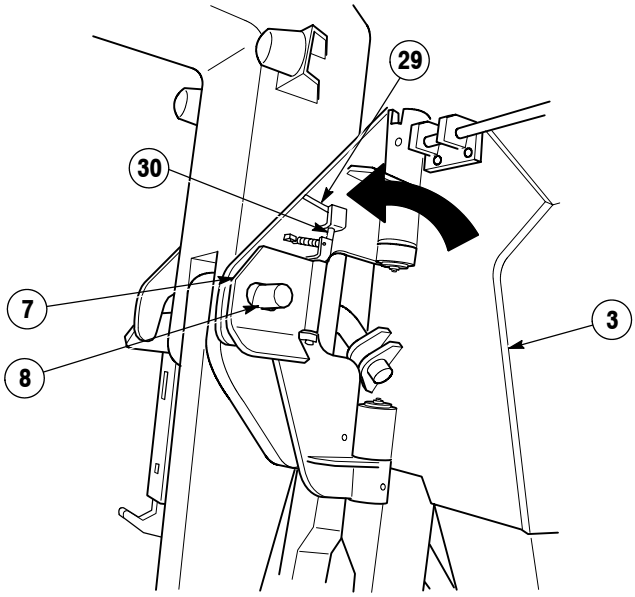
(22) Back up truck until LHS contacts lifting frame (3) and pivot pin (8) is directly below flipper bracket (6) and flipper bracket lock plate (7).

WARNING

Flipper bracket and flipper bracket lock plate must be properly locked to pivot pin before operating LHS to stow lifting frame. Failure to comply could cause lifting frame to become unhooked and cause injury or death to personnel.

(23) Move joystick (31) to LOAD and raise pivot pin (8) in flipper bracket (6) and flipper bracket lock plate (7).





(24) Move joystick (31) to LOAD and raise lifting frame (3) approximately 12 in. (30 cm) off of ground.

(25) Shut OFF engine (Para 2-23).

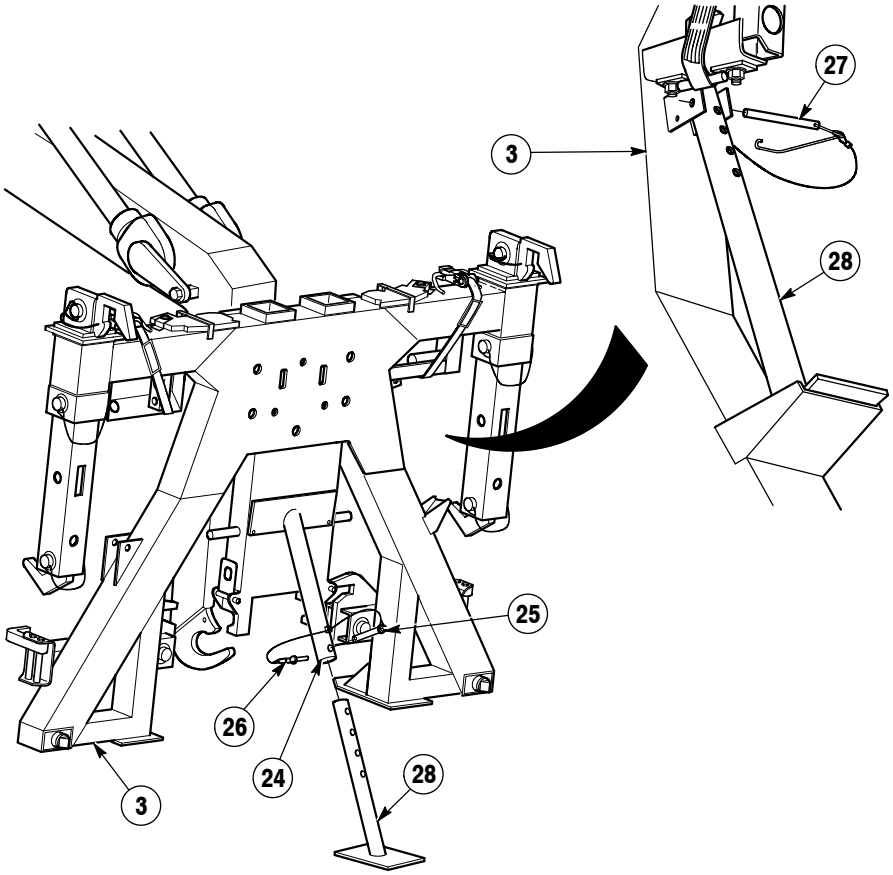
(26) Lift handle (29) and release pin (30).

(27) Rotate pin handle (29) in to locked position, and release pin handle.

(28) Ensure flipper bracket lock plate (7) is positioned over pivot pin (8) and pin handle (29) is locked.

(29) Repeat Steps (26) through (28) for right side.

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).

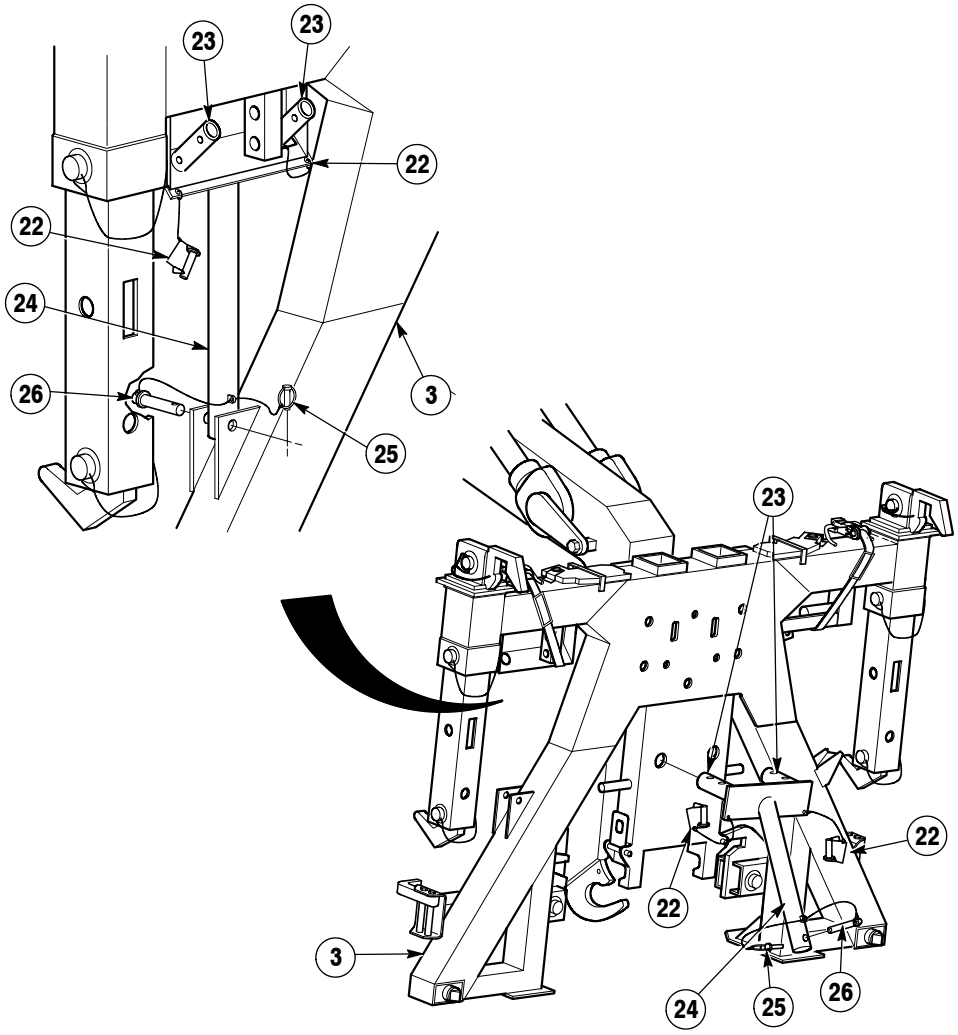


(30) Remove lock pin (27) from stowage bracket on lifting frame (3).

(31) Support lower support leg (28) and remove lock pin (25) and pin (26).

(32) Remove lower support leg (28) from upper support leg (24).

(33) Position lower support leg (28) on stowage bracket of lifting frame (3) and install lock pin (27).



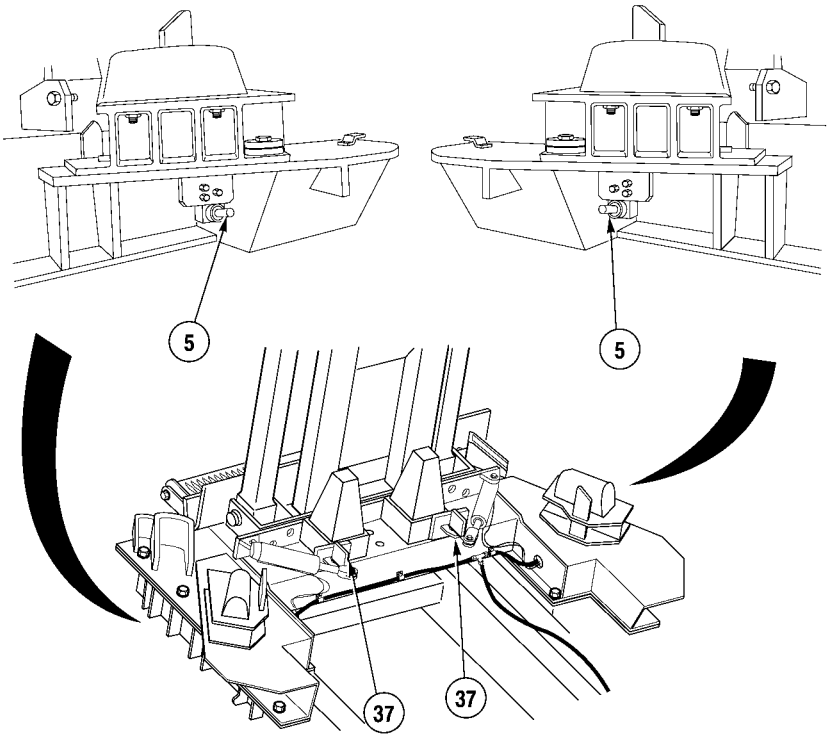
(34) Support upper support leg (24) and remove two lock pins (22) from pins (23).

(35) Remove upper support leg (24) from lifting frame (3).

(36) Position upper support leg (24) in stowage bracket of lifting frame (3) and install two lock pins (22) on pins (23).

(37) Install pin (26) and lock pin (25) on upper support leg (24) and stowage bracket of lifting frame (3).

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).



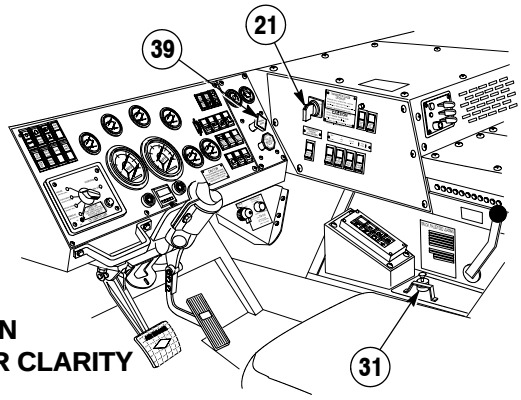
WARNING

- Before stowing lifting frame on truck, ensure paddles are rotated to engage position, bumper support rotated forward, slide arms stowed, and rear container locks are stowed on lifting frame.
- Flipper bracket and flipper bracket lock plate must be properly locked to pivot pin before operating LHS to stow lifting frame. Failure to comply could cause lifting frame to become unhooked and cause injury or death to personnel.

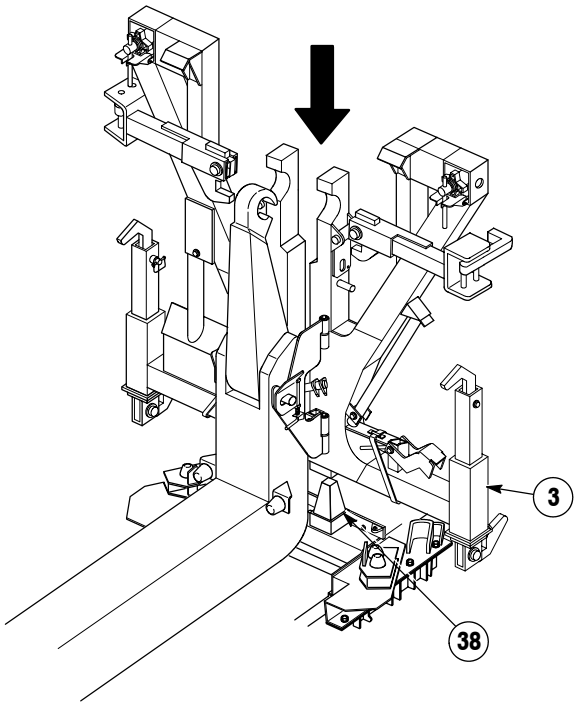
NOTE

- Paddles are properly positioned when air cylinders are fully extended and paddles face towards front of truck.
- Ensure paddles are properly positioned to engage lifting frame.

(38) Operate air valve levers (5) to rotate paddles (37) to engage position.



STEERING WHEEL SHOWN REMOVED FOR CLARITY



(39) Start engine (Para 2-15).

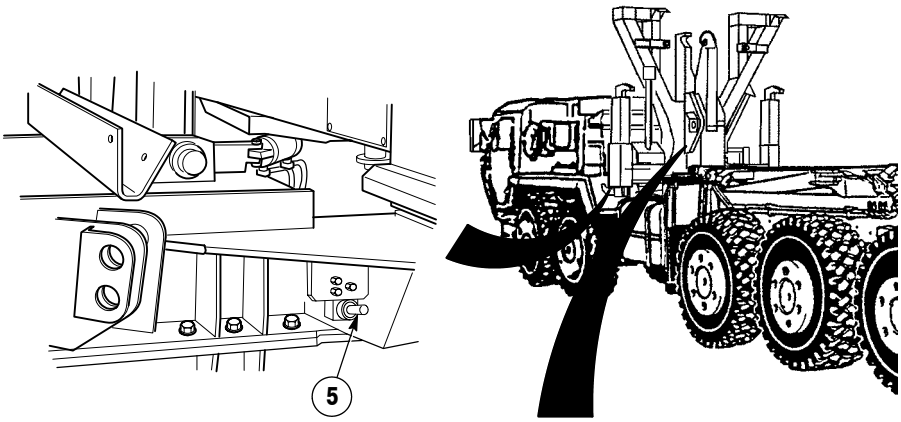
(40) Move joystick (31) to LOAD and stow lifting frame (3) on cone weldments (38).

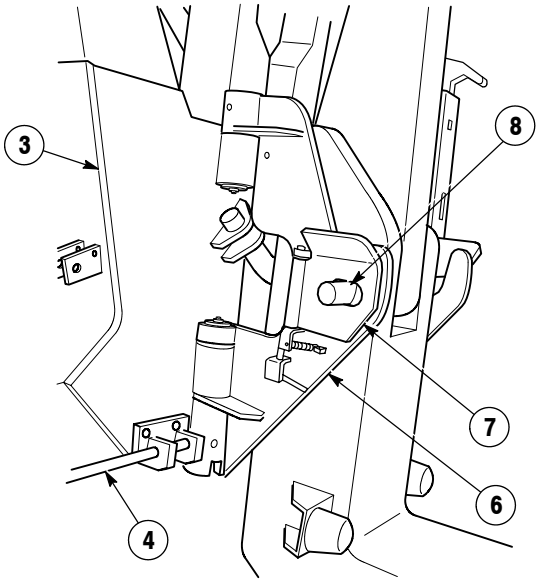
(41) Turn hydraulic selector switch (21) to OFF.

(42) Shut off engine (Para 2-23).

(43) Pull out parking brake knob (39) to apply parking brakes.

2-43. REMOVING AND INSTALLING LIFTING FRAME FROM PLS TRUCK IN FLATRACK MODE (CONT).





NOTE

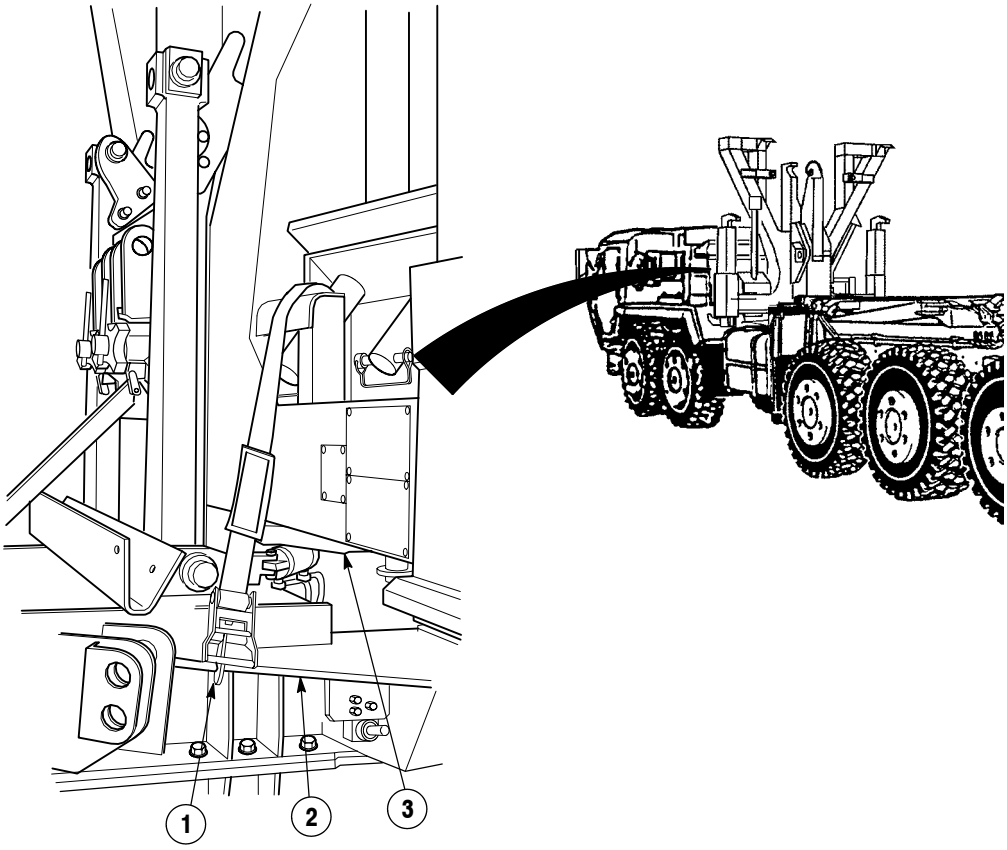
There are two flipper lock assemblies and straps on lifting frame. Left side is shown.

(44) Pull flipper lock pin handle (4) out and push air valve lever (5) down to rotate flipper bracket (6) and flipper bracket lock plate (7) off of pivot pin (8).

(45) Release flipper lock pin handle (4).

(46) Ensure flipper bracket (6) is positioned against lifting frame (3) away from pivot pin (8).

(47) Ensure flipper lock pin handle (4) is engaged in flipper bracket (6).



(48) Position hook of strap (1) to rod on front support assembly (2) and tighten strap.

(49) Repeat Steps (44) through (48) for right side.

2-44. SIMPLIFIED CONTAINER HANDLING UNIT (CHU) OPERATION.

WARNING

These simplified procedures are to be used only as a guide. Full procedures for operation of the container handling unit (CHU) are to be followed as authored in (Para 2-32 through 2-43).

FOLD

(2-32) Preparing PLS for CONTAINER MODE.

1) a Stow straps securing LF to truck.
   b Rotate flipper brackets to attach LF to LHS; Pull flipper lock pin handle and actuate air valve.
2) Do other side (Straps and flipper bracket).
3) Deploy LH slider and check for greased plates.
4) Deploy RH slider and check for greased plates.
5) Cycle LHS *to unload* so LF is 1 foot off the ground' AUTO mode till LHS stops, then switch to MANual HA.
6) Deploy LF strut leg, pin using second hole from the bottom.
7) Pin flipper bracket lock plates open, RH&LH.
8) Cycle LHS *to unload* to unhook LF from LHS, until LHS stops. Use manual hook arm mode to fully extend arm.
9) Drive straight ahead about 1 foot.
10) a Rotate LH bumper supports rearward into Container position.
    b Remove LH guide from stowed position on truck.
    c Install guide on LH slider.
11) Do other side (rubber bumper and guide).
12) Install Transit Lock in ready mode on sliders, LH & RH.
13) Cycle LHS *to load* so hook arm is at correct height for hooking onto the bail bar, using manual HA mode.
14) SWITCH LHS to AUTO mode.
15) Cycle LHS *to load* to pick up LF 1 foot.
16) Attach bail bar lock to Hook Arm to secure LF.
17) Stow LF strut leg.
18) Configure LF for container to be transported. Proper hook in slide arms, slide arm un-pinned as needed.
19) Cycle LHS *to load* to secure LF before operating truck.

(2-38) Returning PLS to FLATRACK MODE

1) Verify LF is not locked to HA.
2) Cycle LHS *to unload* so LF is 1 foot off the ground.
2) a Remove guide from Slider.
   b Install pins in guide.
   c Stow guide in stow bracket and pin.
   d Rotate bumper support forward to stow.
3) Do other side (guide and bumper).
4) Deploy LF strut leg, using second hole from bottom.
5) Remove Bail Bar Lock from Hook Arm and stow.
6) Cycle LHS *to unload* to unhook LHS from LF, using auto mode, drive ahead about 1 foot.
7) Remove transit locks from sliders and stow locks on LF, do both RH & LH.
8) Remove pins and secure LF slide arms RH&LH.
9) Stow LH slider.
10) Stow RH slider.
11) Verify flipper brackets are rotated out.
12) Unlock Flipper bracket lock plates RH&LH, rotating handle until held up in notch.
13) Cycle LHS *to unload* to fully extend LHS, in auto mode LHS pivot pin should be below flipper bracket.
14) Back up until contact LF with Hook Arm, LHS pin should be positioned to engage Flipper brackets.
15) Cycle LHS *to load* to pick LF up 1 foot.
16) Verify LF flipper bracket lock plates have locked around LHS pivot pin.
17) Lock LF flipper bracket lock plates by rotating pin handle 180° from notch position, both RH and LH sides.
18) Stow LF strut leg.
19) Verify paddles are proper fore/aft position to engage LF. Check (LF locked to LHS, slide arms pinned, bumpers forward, transit locks stowed, paddles straight).
20) Cycle LHS *to load* until LF is in stowed position.
20) a Rotate flipper brackets to detach LF from LHS; pull flipper lock pin handle and actuate air valve.
    b Secure LF strap to truck.
21) Do other side (Flipper bracket and strap).

LOADING Container

(2-33) 6 foot 10 in. or higher, (2-34) 6 foot, (2-35) 4 foot 3 in., (2-36) 4 foot

(CHECKS: Lower Locks unlocked, LF configured for size container Bumper supports rearward, slider and transit locks ready).

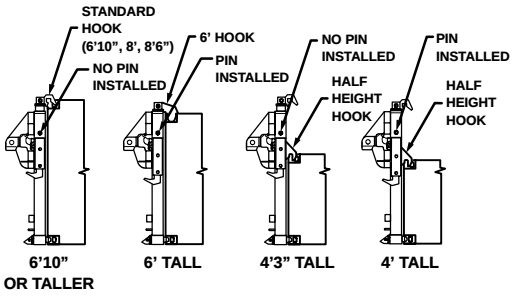
1) Verify that LF is not locked to HA and truck is in container mode.
2) Back up to container to within 9'. Align truck with container.
3) Cycle LHS *to unload* until LF upper hooks are visible just below top edge of container.
4) Ensure LF configured for container, Slide arms pinned if needed, Lower container locks unlocked, Correct hook in slide arm.
5) Back truck up until LF contacts container. Aligning hooks with container corner openings.
6) Cycle LHS *to load* until hooks are above container.
7) Continue backing up truck until hooks positioned over container.
8) Cycle LHS *to unload* to engage hooks into container top corners.
9) Continue to cycle LHS until lower locks are low enough to engage container bottom corners.
10) Back up truck to engage LF lower locks in container corners. Steer truck to align lower locks with container.
    (CHECK: Upper hook thumb engaged, lower locks flush, Sliders positioned straight ahead & clean of debris).
11) Lock lower locks to container; handle straight up, lock plate over handle and handnut.
12) Lock other side.
13) Cycle LHS *to load* to lift container onto truck.
14) Observe clearance between container and slider guides on both sides to ensure container centered during loading.
15) Fully load container until LHS not transit light goes out.
16) Pin transit locks in locked position, RH & LH.
17) Verify container is properly loaded onto the truck.

UNLOADING container

(2-33) 6 foot 10 in. or higher, (2-34) 6 foot, (2-35) 4 foot 3 in., (2-37) 4 foot

(CHECKS: LF properly attached to container, Container loaded properly).

1) Verify sufficient room & ground conditions.
2) Disengage transit locks, RH & LH, Lock transit locks in ready position.
3) Cycle LHS *to unload* to unload container.
4) Unlock lower container locks; handle inward, handnut tightened up, lock plate over handnut.
5) Unlock other side.
6) Drive forward approximately 6", to disengage lower locks.
7) Cycle LHS *to load* to disengage upper hooks from container.
8) Continue to cycle LHS fully *to load* until LHS no transit light goes out, CHU in ready mode.



FOLD

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2-45. SELF-RECOVERY WINCH (SRW).

a. General.

NOTE

- Refer to FM 20-22 for additional detailed information on truck recovery.
- This procedure assumes transfer case is in LOW position and CTIS is in EMERGENCY position.
- Not all trucks are equipped with self-recovery winch.

(1) The self-recovery winch system is designed to allow PLS to recover itself from mired conditions. Winch may be operated from inside truck cab or from winch itself.

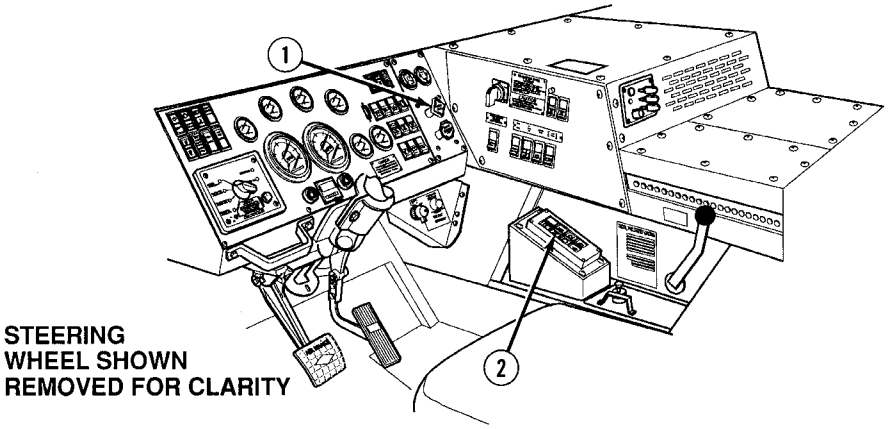
(2) The self-recovery winch IN/OUT switch (in cab) is used for winching the truck when it is mired.

(3) The right side control lever at the winch is used to pay out and reel in cable before and after winching operations.

(4) Free spooling feature is for unwinding cable without hydraulic power.

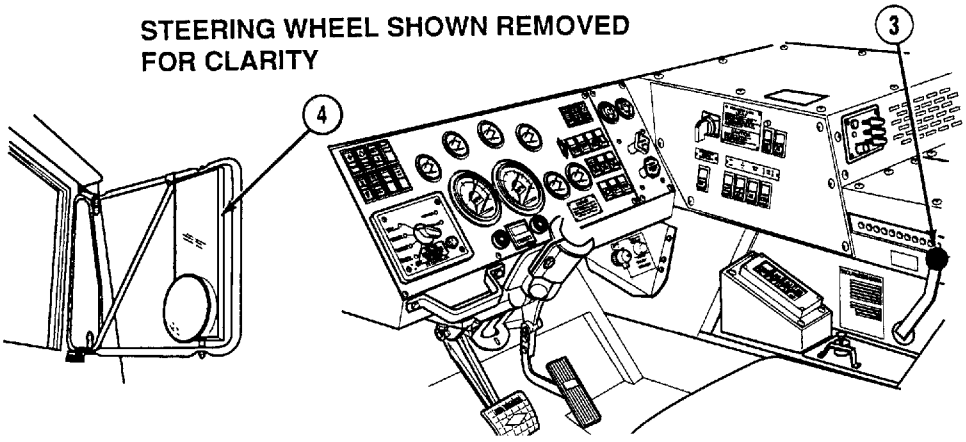
b. Truck Self-Recovery (Winching Forward).

(1) Start engine (Para 2-15).



(2) Apply parking brake (1).

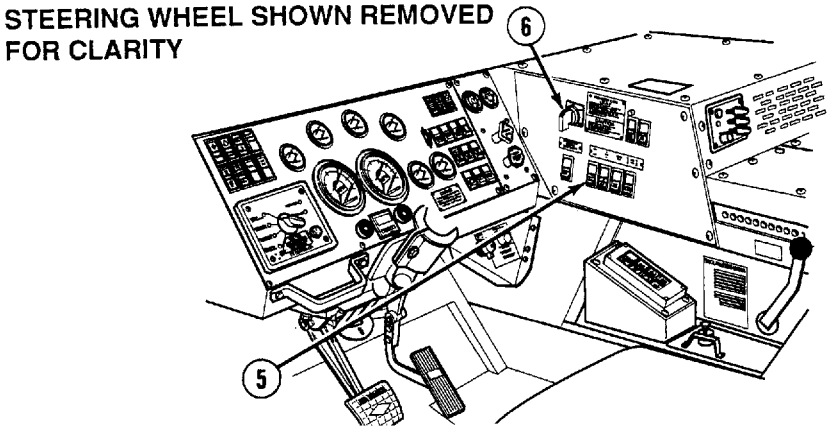
(3) Put transmission range selector (2) in Neutral (N).



(4) Set transfer case shift lever (3) to LO (Low) range.

(5) Adjust right side mirror (4) so driver can see rear of truck.

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



NOTE

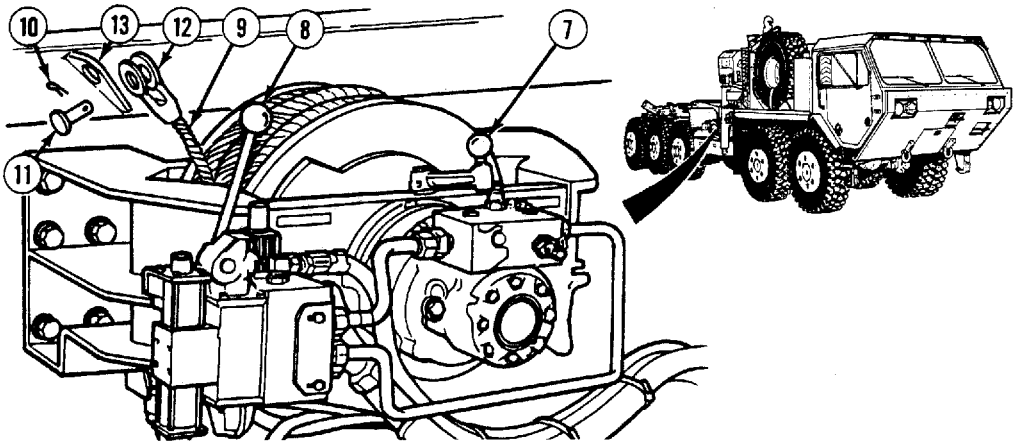
Only trucks equipped with a self-recovery winch and crane will have an electrical power selector switch. Press in top of switch to select self-recovery winch.

(6) Push WINCH/CRANE switch (5) to WINCH position.

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(7) Set hydraulic selector switch (6) to CRANE/SRW.



(8) Move free spooling lever (7) to ENGAGE position.

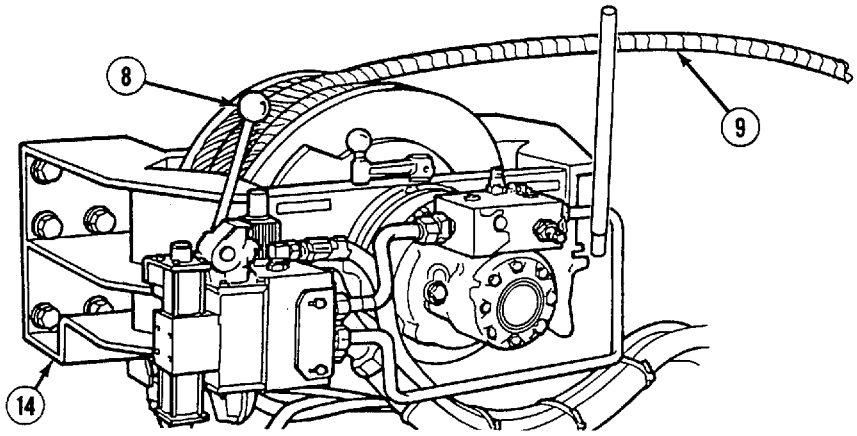
(9) Push winch control lever (8) forward to pay out small amount of cable (9).

(10) Release winch control lever (8).

(11) Remove cotter pin (10) and clevis pin (11) from clevis (12).

(12) Remove clevis (12) from eyelet (13).

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



WARNING

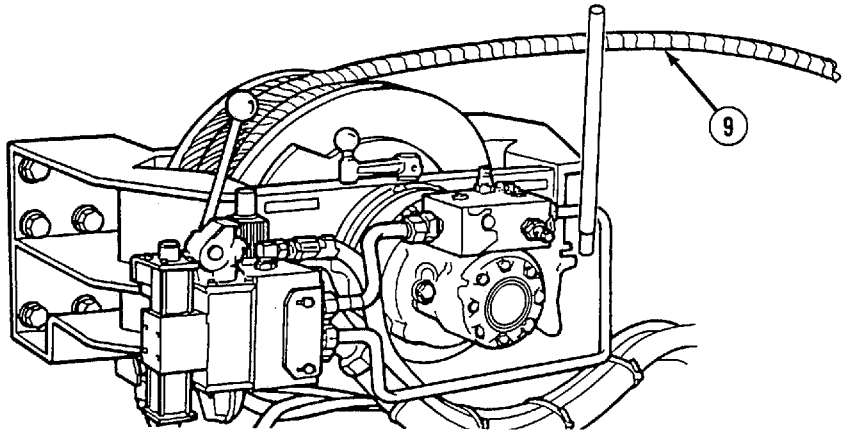
- Always wear heavy gloves when handling cables. Never let cable run through hands; frayed cables can cut. Never operate winch with less than five wraps of cable on winch drum. Serious injury or death could result if cable comes off drum while winching.
- Avoid quick, jerking winch operation. Keep other personnel well away from truck involved in winching operation. A snapped cable or shifting load can cause serious injury or death.

NOTE

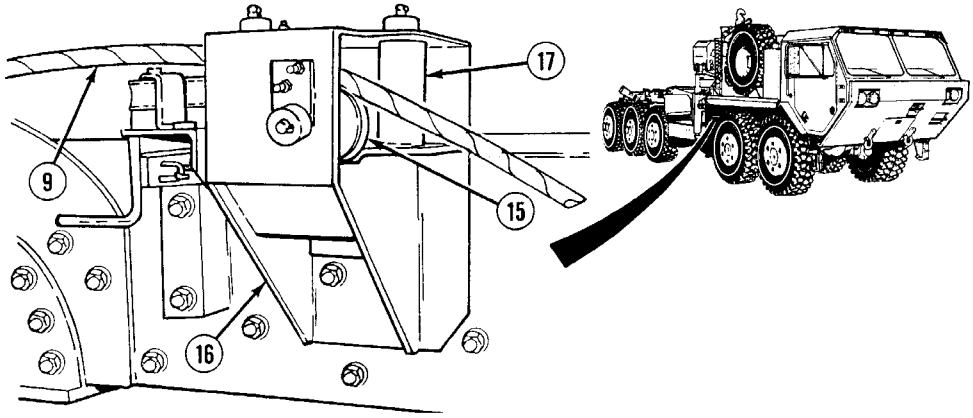
Free spool lever may be put in DISENGAGE position to pull cable by hand.

(13) Pull cable (9) over top of winch (14) toward front of truck.

(14) Push winch control lever (8) forward and pay out cable.



(15) Route cable (9) through notch in fender.

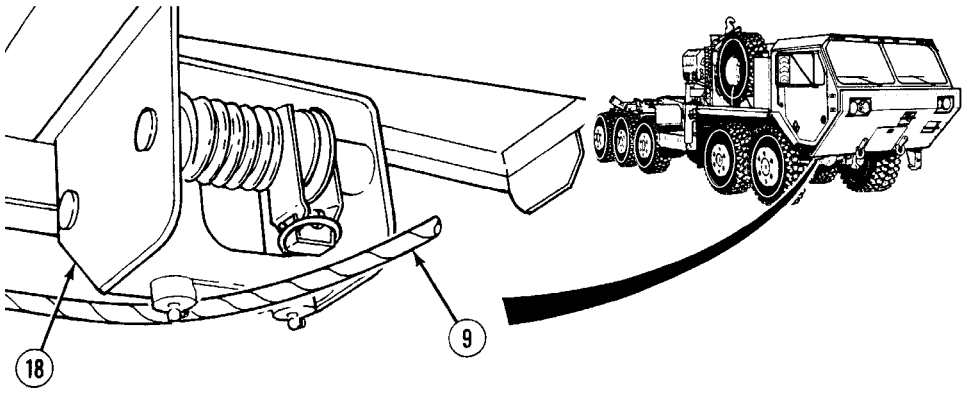


NOTE

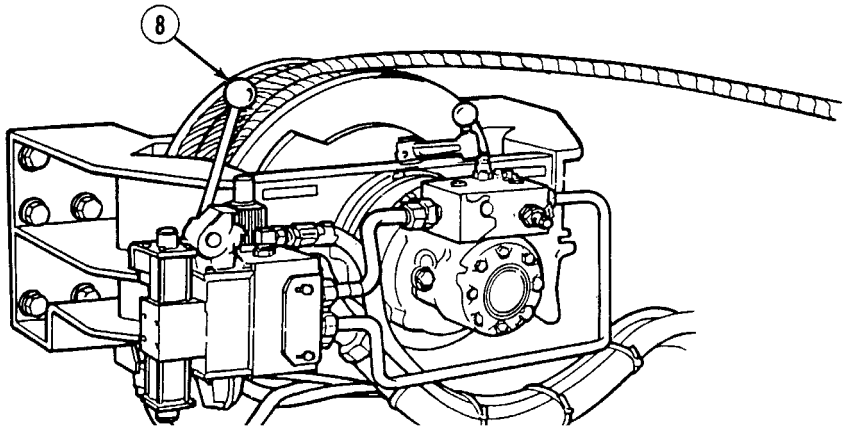
Do not place cable between tensioning device pulleys until cable routing is completed.

(16) Move sheave (15) towards truck frame, and hold in position. Route cable (9) through cable guide (16). Cable must be between two rollers (17). Allow sheave (15) to move back towards cable (9). Lift up on cable (9) and place in groove of sheave.

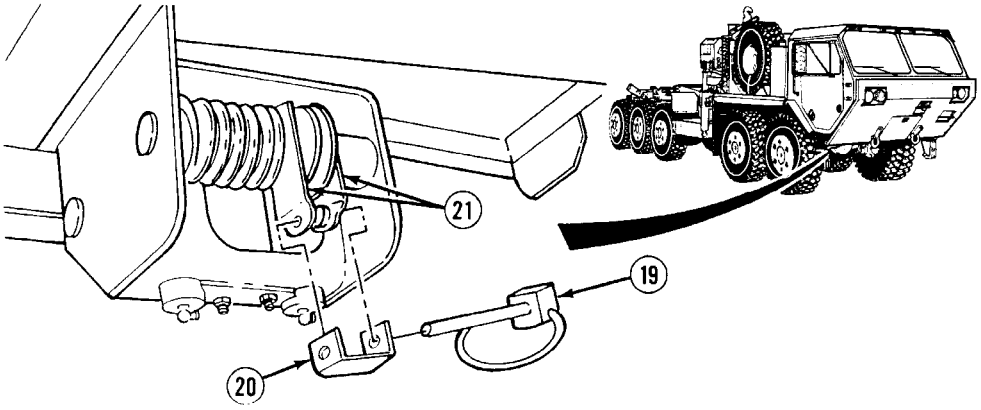
2-45. SELF-RECOVERY WINCH (SRW) (CONT).



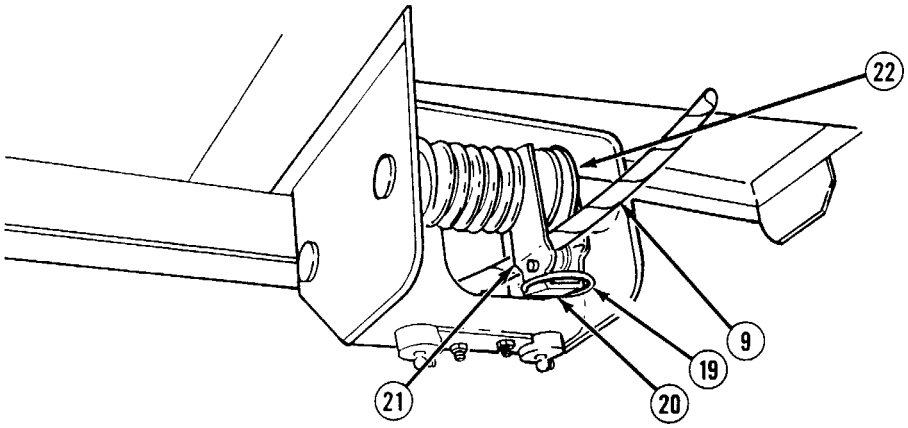
(17) Route cable (9) over Axle No. 1 and 1 ft. (0.31 m) past front roller guide assembly (18).



(18) Release winch control lever (8).

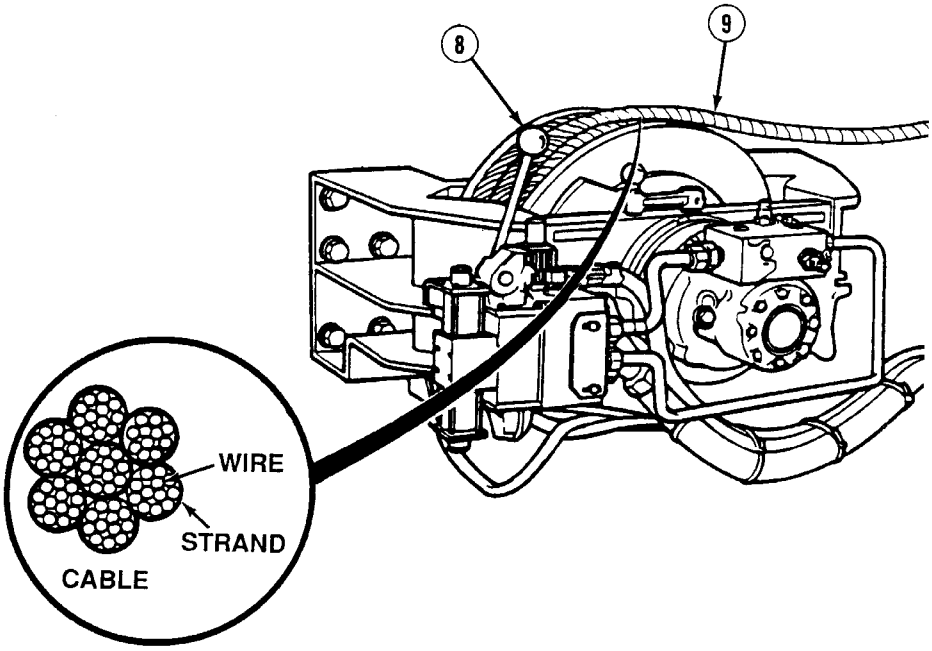


(19) Remove the quick release pin (19) and bracket (20). Move cable guide brackets (21) apart.



(20) Position the cable (9), against bottom of sheave (22). Route cable (9) under sheave (22). Move cable guide brackets (21) together. Install bracket (20) and quick release pin (19).

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



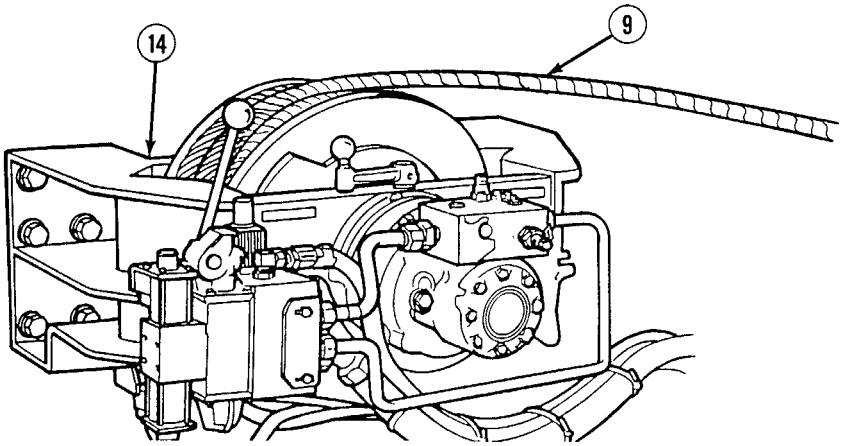
(21) Push the winch control lever (8) forward or use free spooling of winch to pay out cable until cable reaches tree, another heavy truck, or stationary heavy object.

(22) Release winch control lever (8).

NOTE

The cable is not fully mission capable if: cable has more than three broken wire per inch on same strand, or cable has more than six broken wires on all strands in a one in. running length of cable. The maximum number of broken wires shall not occur in any two consecutive inches of cable. For example, if six wires are broken in one in. of cable, none would be allowed in the next consecutive in.

(23) Check cable (9) for broken wires and kinks. If in doubt, notify Unit Maintenance.



CAUTION

There must always be at least five wraps of cable on winch. If load is applied with less than five wraps of cable on winch, cable may come loose on drum.

(24) Check for at least five wraps of cable (9) left on winch (14). If at least five wraps of cable are not left on winch, stop using self-recovery winch.

WARNING

Avoid quick, jerking, winch operation. Keep other personnel well away from trucks involved in winching operation. A snapped cable or shifting load can cause serious injury or death.

CAUTION

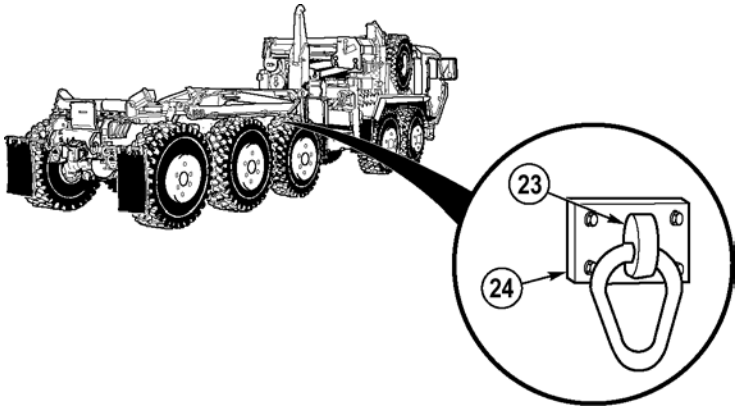
Do not exceed winch pull capacity or winch may be damaged.

(25) If winch (14) has trouble with pull, stop using self-recovery winch and notify Unit Maintenance.

2-45. SELF-RECOVERY WINCH (SRW) (CONT).

Table 2-8. Pull Capacity at 2400 psi (16,548 kPa) at 12 GPM

Layer	Pull Pounds	Line Speed ft/MINUTE	Cable Capacity By Layer - ft
1	20,000 (9080 kg)	18	30 (9.1 m)
2	18,000 (8172 kg)	20	63 (19.2 m)
3	16,360 (7427 kg)	22	99 (30.2 m)
4	15,000 (6810 kg)	24	139 (42.4 m)
5	13,850 (6288 kg)	26	181 (55.2 m)



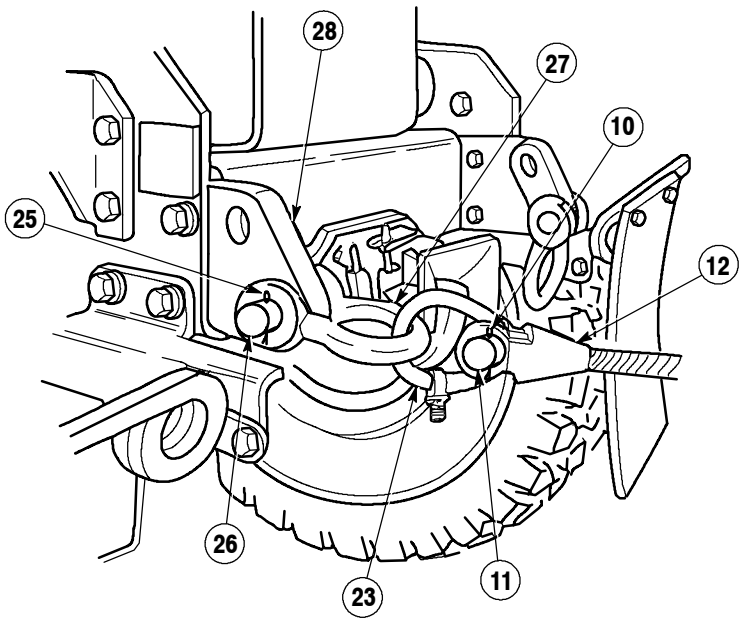
CAUTION

When attaching cable to another truck, that truck must be used only as an anchor point or damage to equipment can result.

NOTE

- If snatch block must be used, refer to Para 2-45d.
- If cable will be connected to truck or to another truck acting as a stationary anchor, perform Steps (26) through (30).

(26) Remove tow ring (23) from mounting plate (24).



NOTE

Towing shackles for front and rear are removed the same way. Rear is shown.

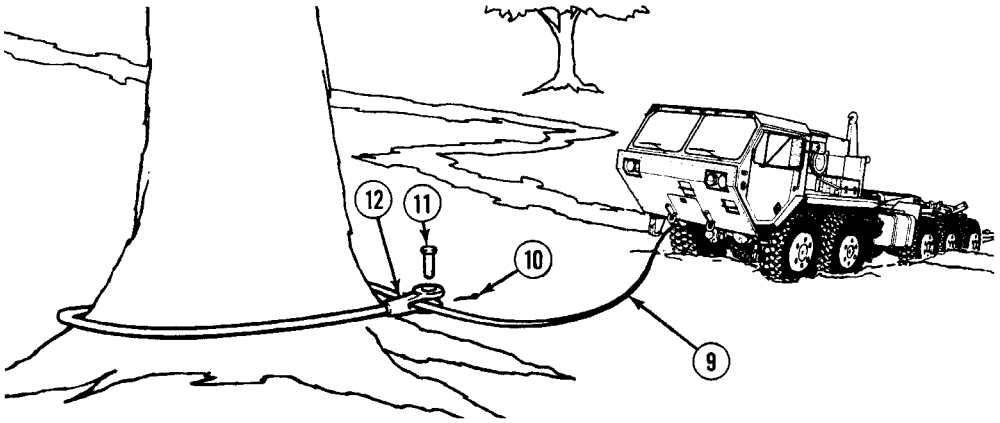
(27) Remove cotter pin (25), pin (26), and towing shackle (27) from tow eye (28).

(28) Position towing shackle (27) through tie down ring (23).

(29) Install towing shackle (27) and tie down ring (23) to tow eye (28) with pin (26) and cotter pin (25).

(30) Attach clevis (12) to tie down ring (23) with clevis pin (11) and cotter pin (10).

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



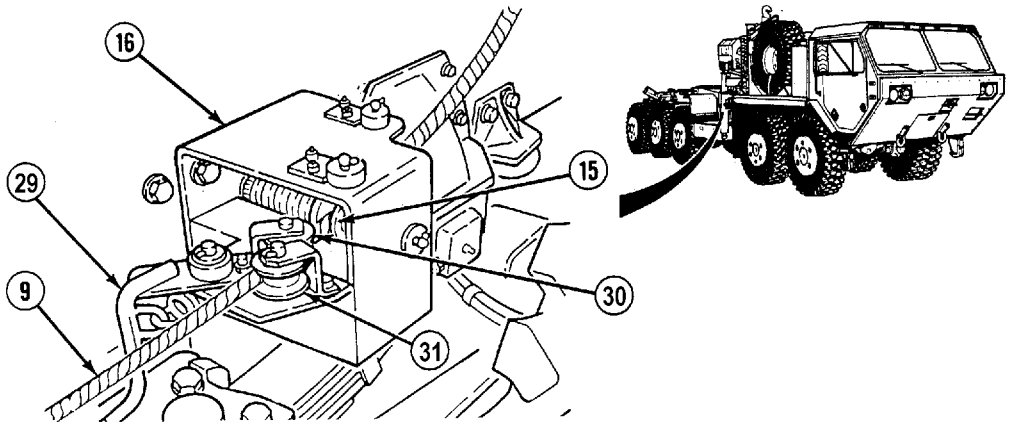
NOTE

If cable is to be attached to tree, rock, or stationary heavy object, perform Steps (31) through (33).

(31) If the cable is to be anchored to tree, rock, or stationary and heavy object, route cable around tree, rock, or stationary and heavy object to withstand pull of winch.

(32) Route cable (9) through arms of clevis (12).

(33) Install clevis pin (11) and cotter pin (10) in clevis (12).



WARNING

Do not operate winch while personnel are working on or around cable guides. Severe injury to arms, hands, and fingers may result if cable moves while working with cable and cable guides.

(34) Pull back and hold the tensioning pulley lever (29) on cable guide (16).

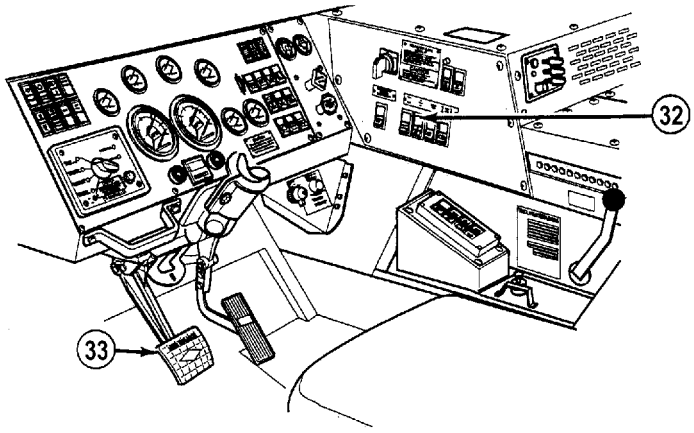
(35) Put the cable (9) between tensioning pulleys (30).

(36) Release the tensioning pulley lever (29).

(37) Check that the cable (9) rests inside grooves (31) of tensioning device pulleys (30) and sheave (15).

(38) Check that cable is not caught on truck or any other objects.

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

WARNING

Keep all personnel clear of area near cable when tension is on cable. If cable breaks, it can cause severe injury or death.

CAUTION

If winch does not move the truck, stop using winch, overheat damage may occur.

NOTE

Ensure free spooling lever is in the ENGAGED position.

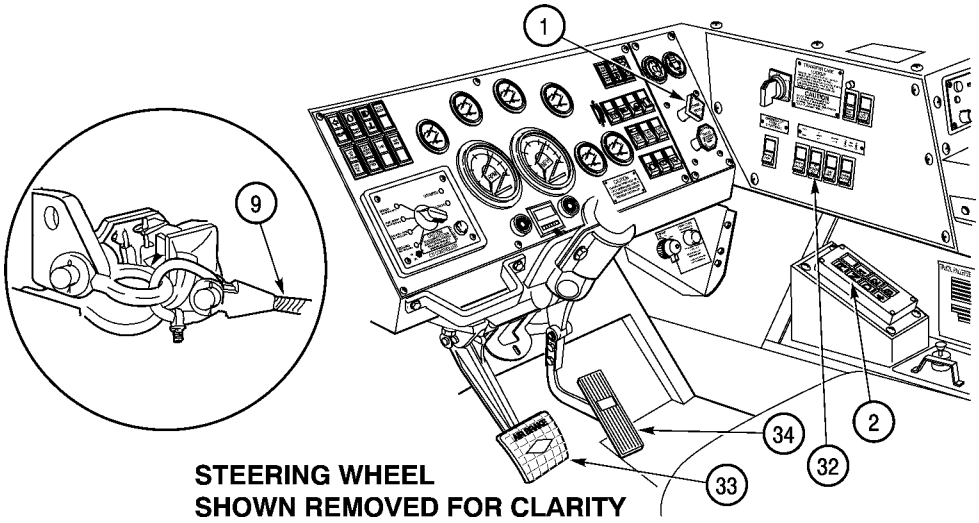
(39) Push WINCH IN/OUT switch (32) to IN until slack is out of cable.

(40) Release WINCH IN/OUT switch (32).

(41) Apply service brake pedal (33).

CAUTION

Self-recovery winch is not designed to winch mired truck by itself. Truck drive system power must always be used with winch to self-recover the truck, or damage to equipment can result.



(42) Set transmission range selector (2) to 1.

(43) Release parking brake (1).

(44) Release service brake pedal (33).

(45) Push WINCH IN/OUT switch (32) to IN and apply slight pressure to throttle control (34).

CAUTION

Keep cable tight at all times so cable does not get tangled with truck.

(46) Adjust position of throttle control (34) to change engine speed as needed to keep cable tight and truck moving.

(47) When truck is on solid ground, release WINCH IN/OUT switch (32).

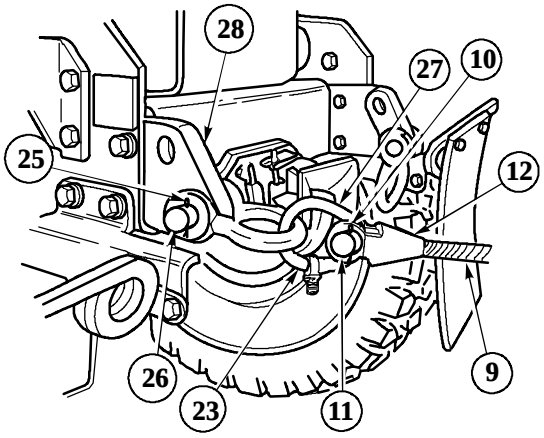
(48) Apply parking brake (1).

(49) Set transmission range selector (2) to Neutral (N).

(50) Push WINCH IN/OUT switch (32) to OUT and pay out cable (9) until all tension is off cable.

(51) When all tension is off cable (9), release WINCH IN/OUT switch (32) to center position.

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



NOTE

If cable was connected to truck or to another truck, perform Steps (52) through (58).

(52) Ensure there is enough slack in cable (9).

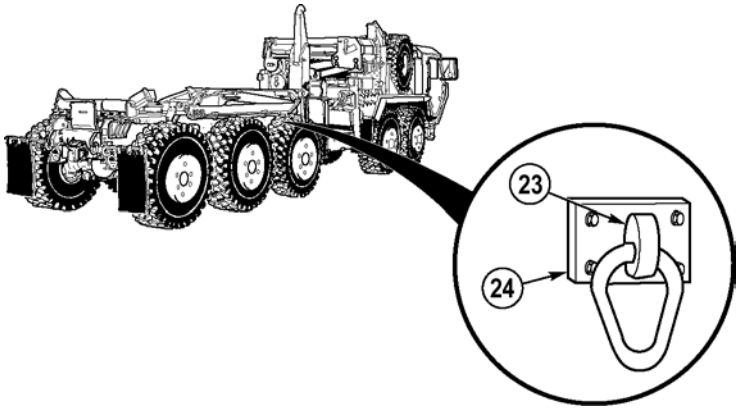
(53) Remove the cotter pin (10) from clevis pin (11).

(54) Remove the clevis pin (11) and disconnect clevis (12) from towing shackle (27).

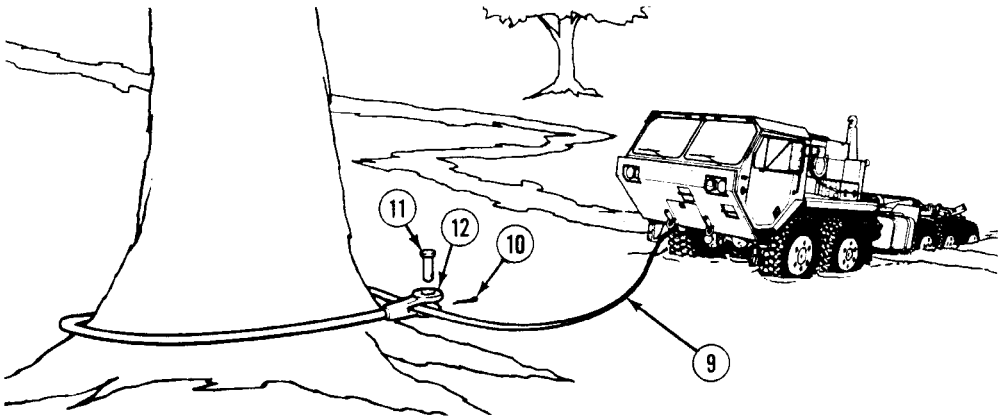
(55) Remove cotter pin (25), pin (26), towing shackle (27) and tie down ring (23) from tow eye (28).

(56) Remove tie down ring (23) from towing shackle (27).

(57) Install towing shackle (27) to tow eye (28) with pin (26) and cotter pin (25).



(58) Install tie down ring (23) to mounting plate (24).



NOTE

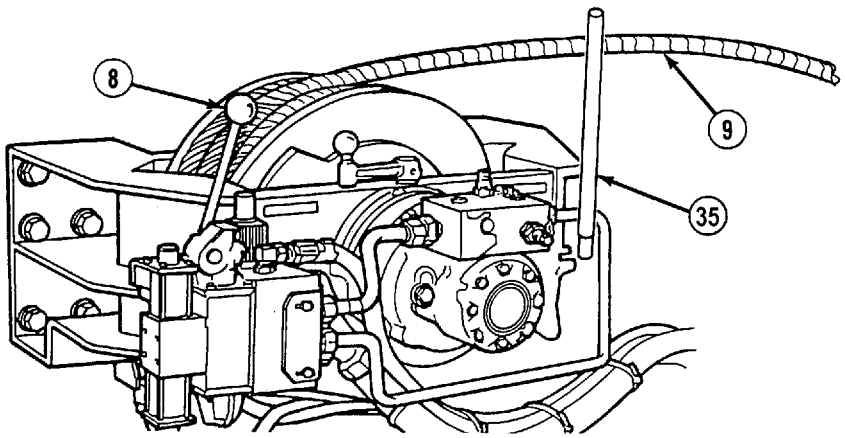
If truck was connected to a tree or a heavy object, perform Steps (59) through (61).

(59) Ensure there is enough slack in cable (9).

(60) Remove the cotter pin (10) and clevis pin (11) from clevis (12).

(61) Remove the cable (9) from clevis (12) and remove cable (9) from around tree, rock, or other stationary and heavy object.

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



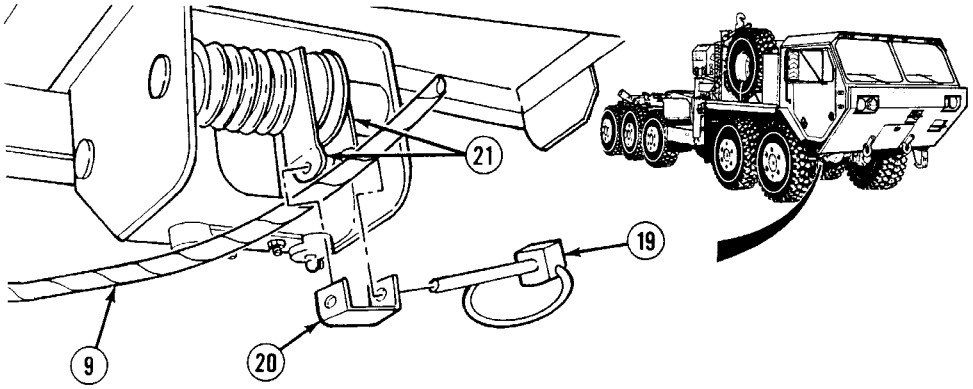
WARNING

- Do not use winch to reel clevis end of cable through roller guides. Clevis may catch on roller guide and cause cable or roller guide to break. Broken cables or roller guides can cause serious injury or death.
- Keep all personnel clear of winch area when winch is reeling in cable. If hands are caught in winch or cable, or if cable breaks under tension, severe injury or death could occur.

(62) Push winch control lever (8) to the rear.

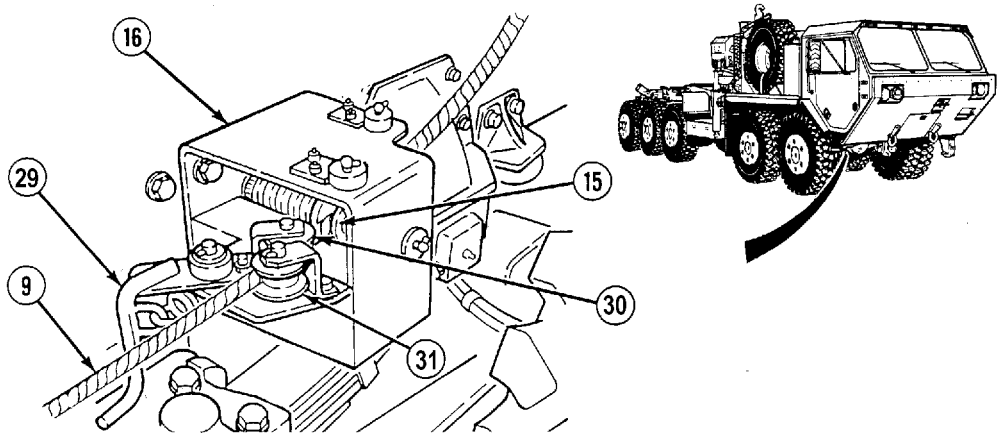
(63) Reel in cable (9). Remove extension handle (35) from stowage box and use extension handle to guide cable (9) onto winch so cable wraps are level across face of winch.

(64) When end of cable (9) is near front of truck, release winch control lever (8).



(65) Remove quick release pin (19) and guide bracket (20). Move cable guide brackets (21) apart so cable (9) can be removed. Remove cable (9) by hand.

(66) Move cable guide brackets (21) together. Install guide bracket (20) and quick release pin (19).



(67) Pull back and hold tensioning pulley lever (29).

(68) Lift cable (9) out of grooves (31) of tensioning pulleys (30) and off of sheave (15).

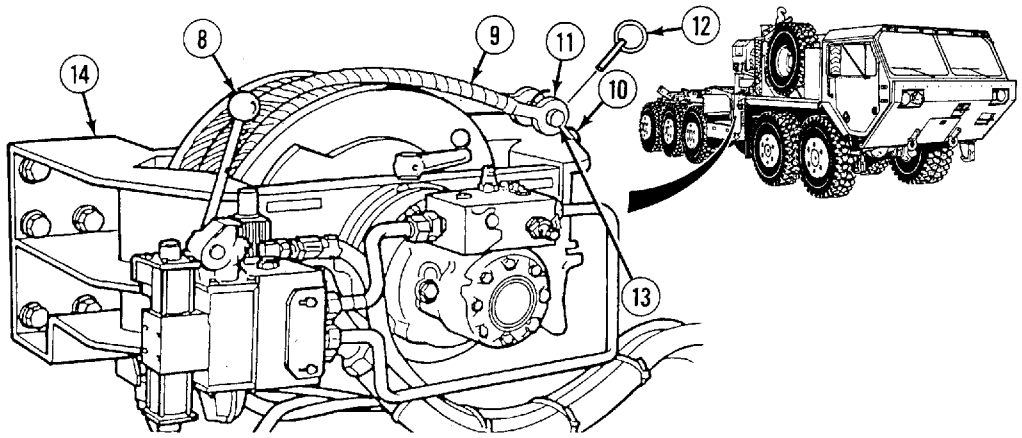
(69) Release tensioning pulley lever (29).

WARNING

Never let moving cable slide through hands, even when wearing gloves. A broken cable could cut through glove and cut hand.

(70) Physically (by hand) pull cable (9) back and out of cable guide (16).

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



(71) Push winch control lever (8) rearward and reel in cable (9).

(72) When the clevis (12) is approximately one ft. (0.31 m) from winch (14), release winch control lever (8).

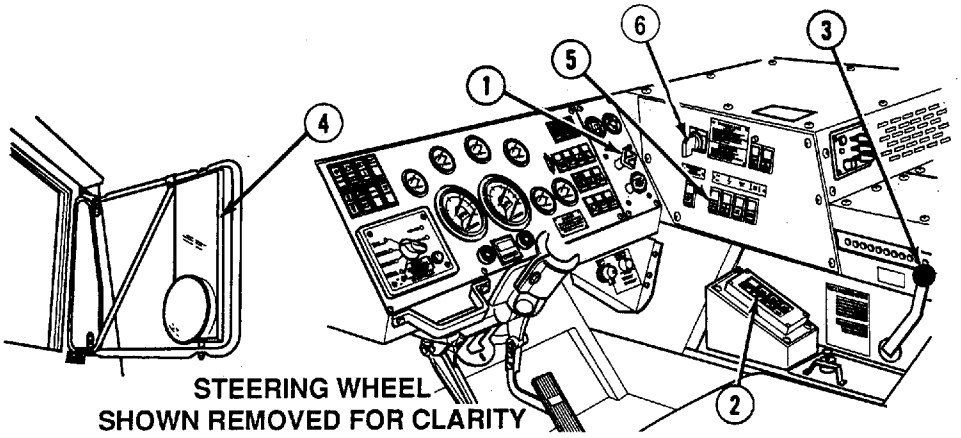
(73) Install clevis (12) to eyelet (13) with clevis pin (11) and cotter pin (10).

WARNING

Do not reel in cable too tightly or injury to personnel may occur if too much tension is applied to eyelet.

(74) Push the winch control lever (8) rearward and take out slack in cable.

(75) When slack is removed from cable (9), release winch control lever (8).



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(76) Set the hydraulic selector switch (6) to OFF.

(77) Shut off engine (Para 2-23).

(78) Adjust mirror (4) for driving.

c. Truck Self-Recovery (Winch To Rear).

(1) Start engine (Para 2-15).

(2) Apply parking brake (1).

(3) Place transmission range selector (2) in Neutral (N).

(4) Set transfer case shift lever (3) to LO (low) range.

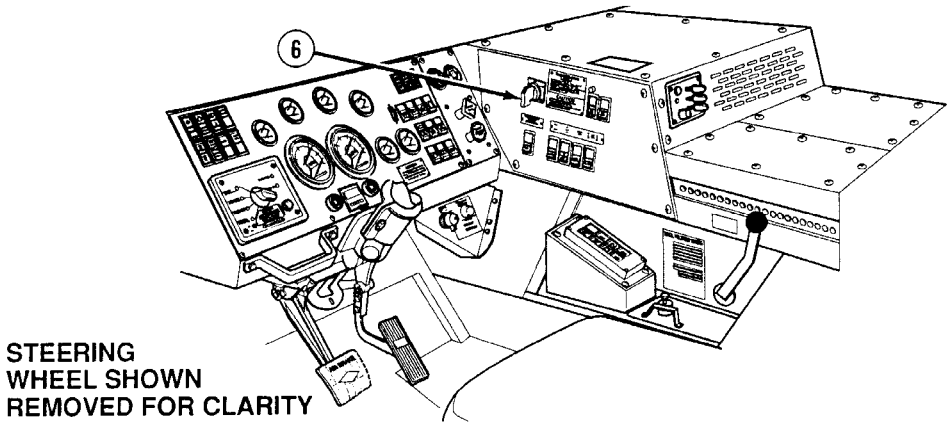
(5) Adjust right side mirror (4) so driver can see rear of truck.

NOTE

Only trucks equipped with a SRW and a CRANE will have electrical power selector switch.

(6) Push WINCH/CRANE switch (5) to WINCH position.

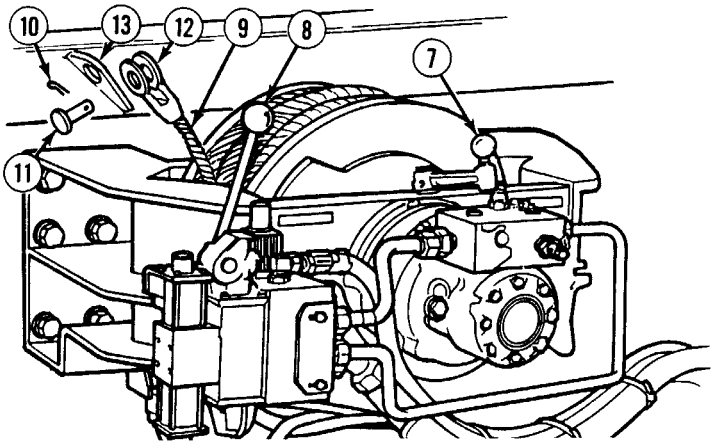
2-45. SELF-RECOVERY WINCH (SRW) (CONT).



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(7) Set hydraulic selector switch (6) to CRANE/SRW.



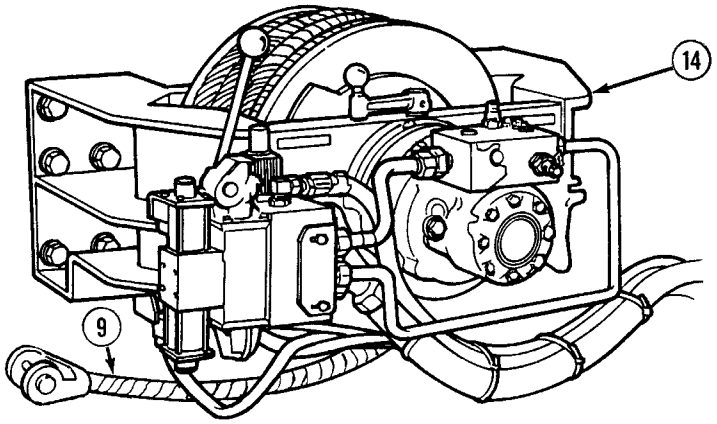
(8) Move free spooling lever (7) to ENGAGE position.

(9) Push winch control lever (8) forward to pay out small amount of cable (9).

(10) Release winch control lever (8).

(11) Remove cotter pin (10) and clevis pin (11) from clevis (12).

(12) Remove clevis (12) from eyelet (13).



WARNING

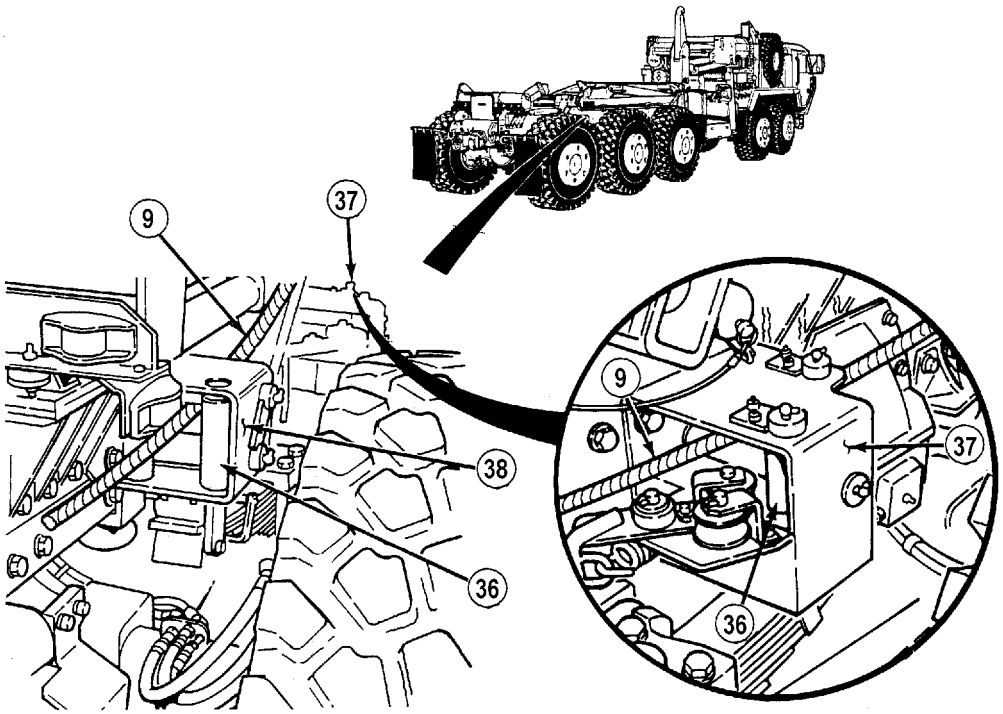
- Always wear heavy gloves when handling cables. Never let cable run through hands; frayed cables can cut. Never operate winch with less than five wraps of cable on winch drum. Serious injury or death could result if cable comes off drum while winching.
- Avoid quick, jerking winch operation. Keep other personnel well away from truck involved in winching operation. A snapped cable or shifting load can cause serious injury or death.

NOTE

Free spooling lever must be in the DISENGAGE position to pull cable by hand.

(13) Pull cable (9) under winch (14) toward rear of truck.

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



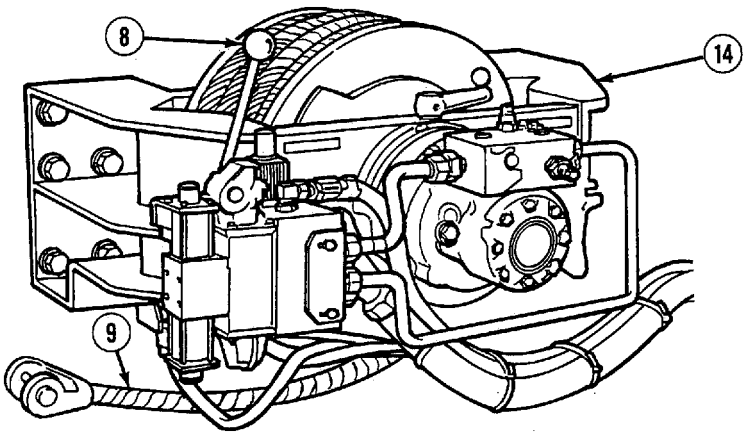
WARNING

Do not operate winch while personnel are working on or around cable guides. Severe injury to arms, hands, and fingers may result if cable moves while working with cable and cable guides.

NOTE

Do not place cable between tensioning pulleys at this time.

(14) Route the cable (9) between rollers (36) of both rear cable guides (37) and (38).



(15) Pay out cable (9) so that cable will extend beyond rear of truck. Release winch control lever (8).

(16) Push the winch control lever (8) forward or use the free spooling feature of winch (Para 2-45d) to pull cable to stationary object.

(17) When cable (9) is let out to tree, another heavy truck, or other stationary and heavy object, release winch control lever (8).

WARNING

Do not operate winch while personnel are working on or around cable guides. Severe injury to arms, hands, and fingers may result if cable moves while working with cable and cable guides.

NOTE

Refer to Para 2-45b and inspect cable.

(18) Check that cable (9) is not caught on truck or any other objects.

CAUTION

There must always be at least five wraps of cable on winch. If load is applied with less than five wraps of cable on winch, cable may come loose from anchor point on drum.

(19) Check for at least five wraps of cable (9) left on winch (14). If at least five wraps of cable are not left on winch, stop using self-recovery winch.

2-45. SELF-RECOVERY WINCH (SRW) (CONT).

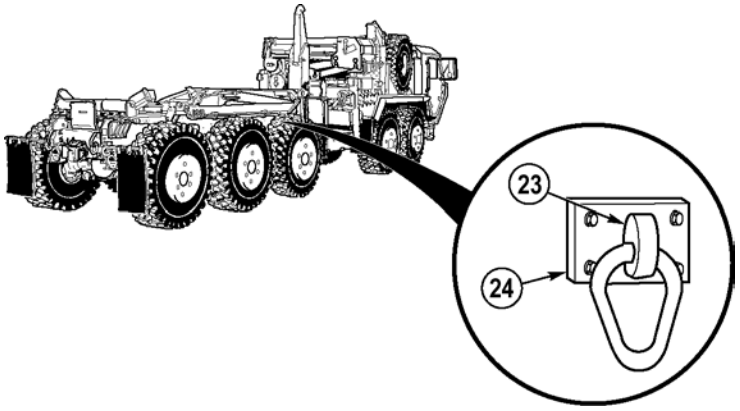
WARNING

Avoid quick, jerking, winch operation. Keep other personnel well away from trucks involved in winching operations. A snapped cable or shifting load can cause serious injury or death.

CAUTION

Do not exceed winch pull capacity or winch may be damaged.

(20) If SRW has trouble with pull, stop using SRW and notify Unit Maintenance. See pull capacity Table 2-8 (Para 2-45).



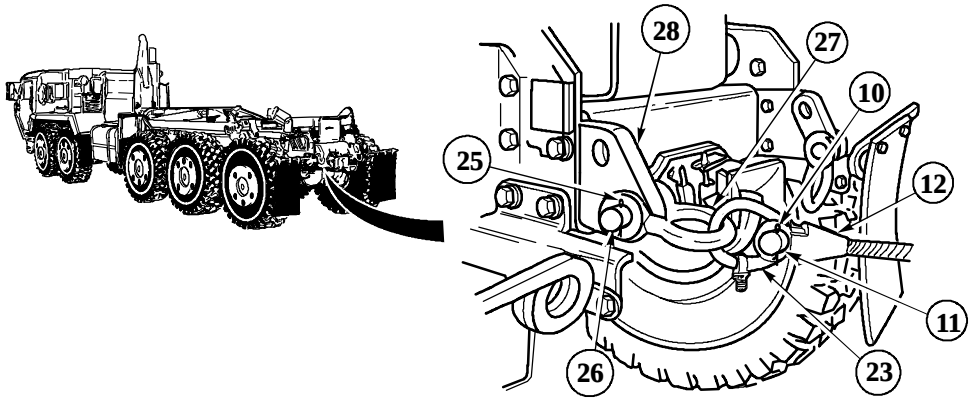
CAUTION

When attaching cable to another truck, that truck must be used only as an anchor point or damage to equipment can result.

NOTE

- If snatch block must be used, refer to Para 2-45d.
- If cable will be connected to truck or to another truck acting as a stationary anchor, perform Steps (21) through (25).

(21) Remove tow ring (23) from mounting plate (24).



NOTE

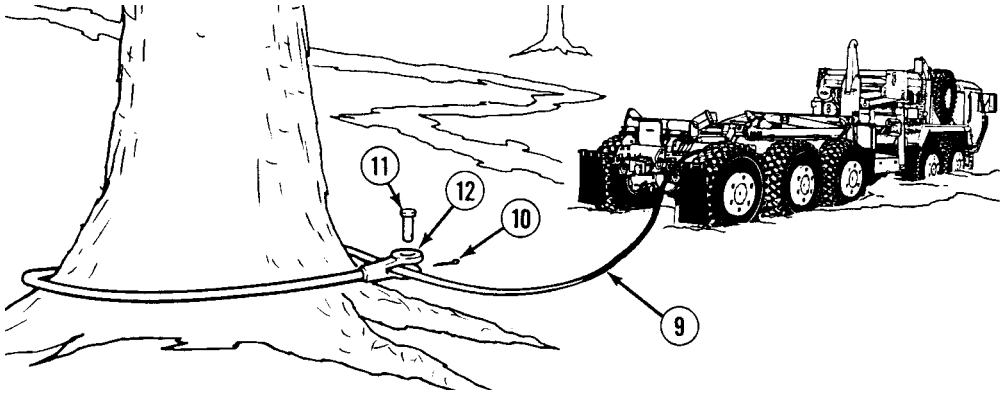
Towing shackles for front and rear are removed the same way. Rear is shown.

(22) Remove cotter pin (25), pin (26) and towing shackle (27) from tow eye (28).

(23) Position towing shackle (27) through tie down ring (23).

(24) Install towing shackle (27) and tie down ring (23) to tow eye (28) with pin (26) and cotter pin (25).

(25) Attach clevis (12) to tie down ring (23) with clevis pin (11) and cotter pin (10).



NOTE

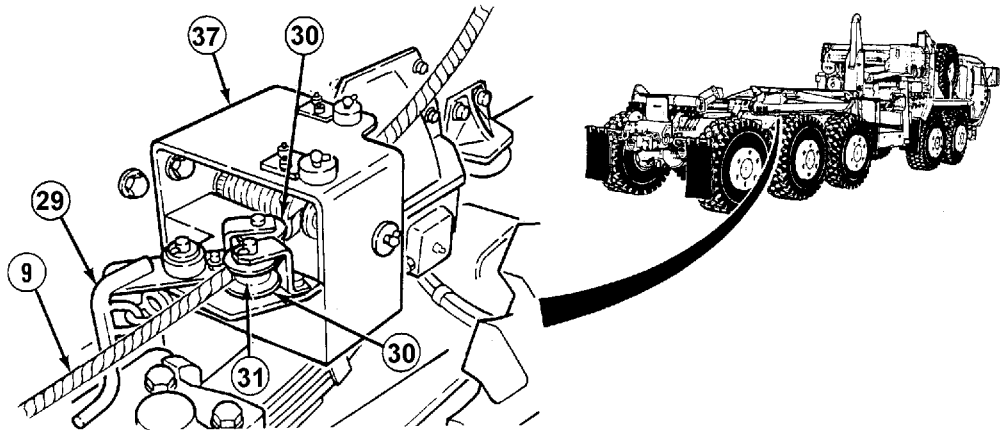
If cable is to be attached to tree, rock, or stationary heavy object, perform Steps (26) through (28).

(26) If cable (9) is to be anchored to tree, rock or other stationary and heavy object, route cable around object heavy enough to withstand pull of winch.

(27) Route cable (9) through arms of clevis (12).

(28) Install clevis pin (11) and cotter pin (10) in clevis (12).

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



WARNING

Do not operate winch while personnel are working on or around cable guides. Severe injury to arms, hands, and fingers may result if cable moves while working with cable and cable guide.

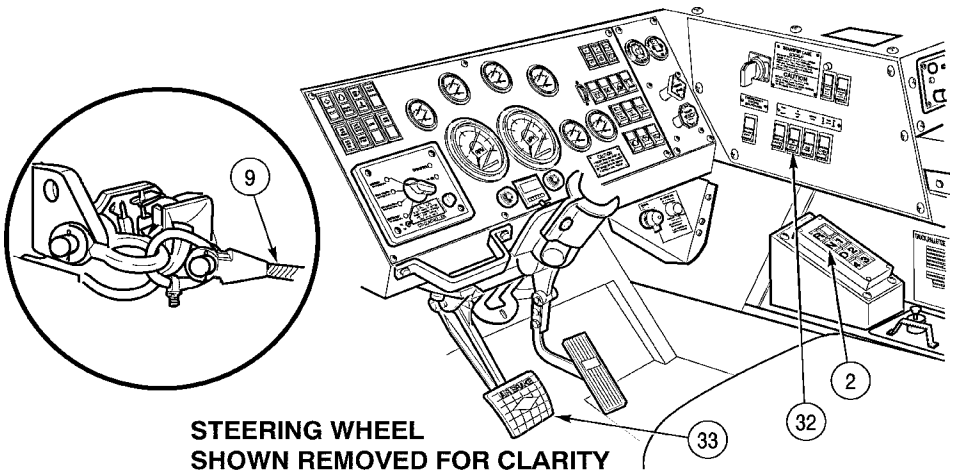
(29) Pull back and hold tensioning pulley lever (29) on cable guide (37).

(30) Put cable (9) between tensioning pulleys (30).

(31) Release tensioning pulley lever (29) on cable guide (37).

(32) Check that cable (9) rests inside grooves (31) of tensioning pulleys (30).

(33) Check that cable (9) is not caught on truck or any other objects.



STEERING WHEEL
SHOWN REMOVED FOR CLARITY

WARNING

Keep all personnel clear of area near cable when tension is on cable. If cable breaks, it can cause severe injury or death.

CAUTION

If winch does not move the truck, stop using winch, overheat damage may occur.

NOTE

Ensure free spooling lever is in the ENGAGED position.

(34) Push the WINCH IN/OUT switch (32) to IN until slack is out of cable (9).

(35) Return WINCH IN/OUT switch (32) to center position.

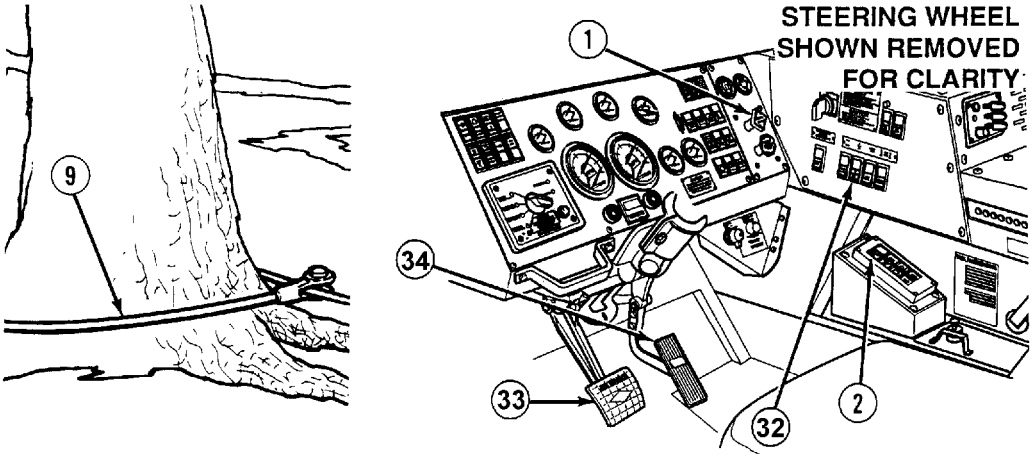
(36) Apply service brake pedal (33).

CAUTION

Self-recovery winch is not designed to winch mired truck by itself. Truck drive system power must always be used with winch to self-recover the truck, or damage to equipment can result.

(37) Set the transmission range selector (2) to Reverse (R).

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



(38) Release the parking brake (1).

(39) Release the service brake pedal (33).

(40) Push the WINCH IN/OUT switch (32) to IN and apply slight pressure to throttle control (34).

CAUTION

Keep cable tight at all times so cable does not get tangled with truck. Damage to equipment may result.

(41) Adjust the position of throttle control (34) to change engine speed as needed to keep cable (9) tight and truck moving.

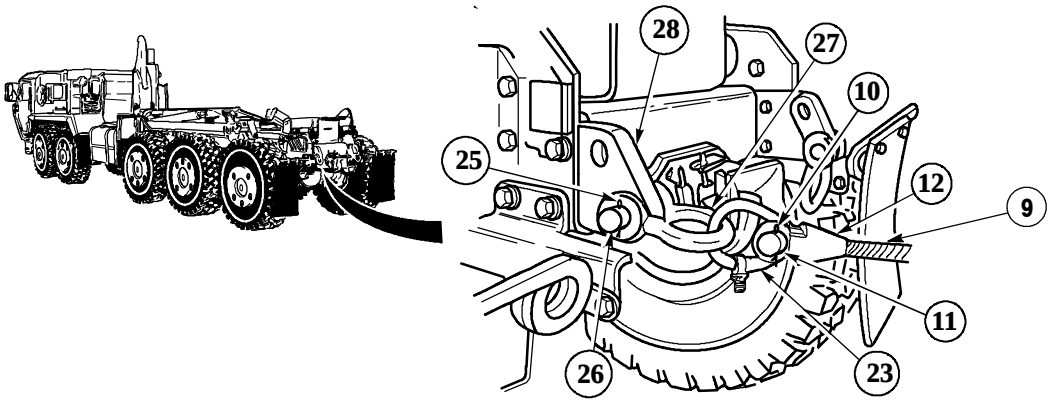
(42) When the truck is on solid ground, release WINCH IN/OUT switch (32).

(43) Apply parking brake (1).

(44) Set transmission range selector (2) to Neutral (N).

(45) Push the WINCH IN/OUT switch (32) to OUT and pay out cable (9) until all tension is off cable.

(46) When all tension is off cable (9), release WINCH IN/OUT switch (32) to center position.



NOTE

If cable was connected to truck or to another truck, perform Steps (47) through (53).

(47) Ensure there is enough slack in cable (9).

(48) Remove cotter pin (10) from clevis pin (11).

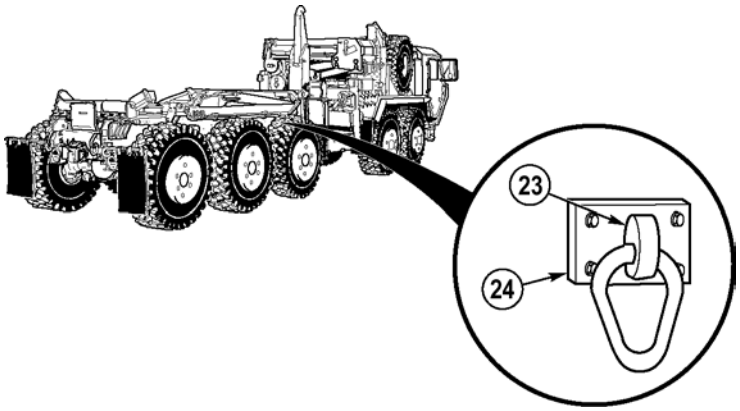
(49) Remove clevis pin (11) and disconnect clevis (12) from towing shackle (27).

(50) Remove cotter pin (25), pin (26), towing shackle (27) and tie down ring (23) from tow eye (28).

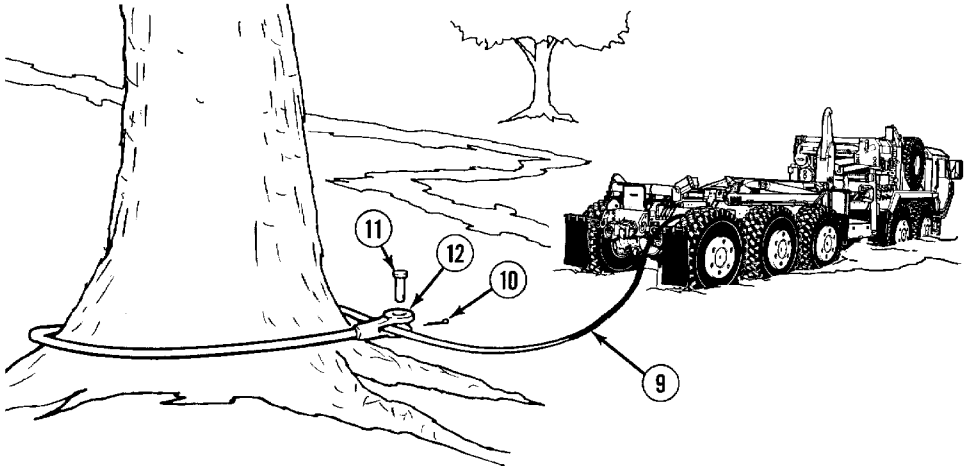
(51) Remove tie down ring (23) from towing shackle (27).

(52) Install towing shackle (27) to tow eye (28) with pin (26) and cotter pin (25).

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



(53) Install tie down ring (23) to mounting plate (24).



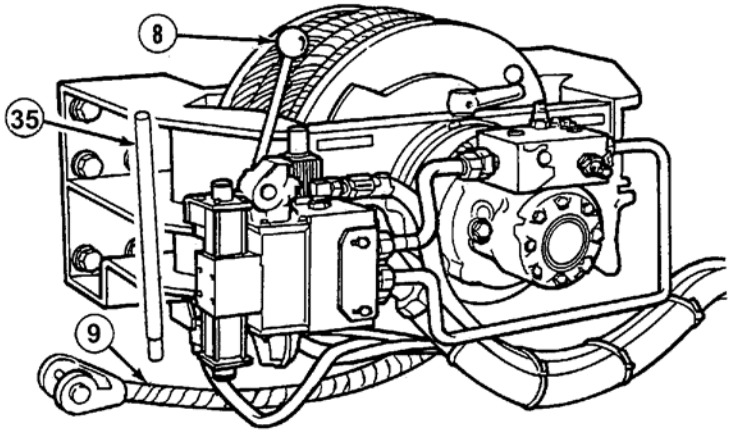
NOTE

If truck was connected to a tree or a heavy object, perform Steps (54) through (56).

(54) Ensure there is enough slack in cable (9).

(55) Remove cotter pin (10) and clevis pin (11) from clevis (12).

(56) Remove cable (9) from around tree, rock, or other stationary and heavy object.



WARNING

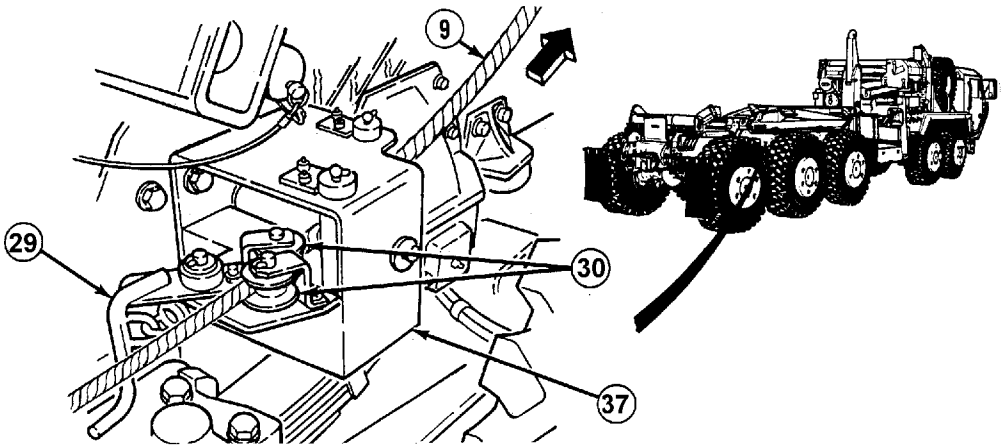
- Do not use winch to reel clevis end of cable through roller guides. Clevis may catch on roller guide and cause cable or roller guide to break. Broken cables or roller guides can cause serious injury or death.
- Keep all personnel clear of winch area when winch is reeling in cable. If hands are caught in winch or cable, or if cable breaks under tension, severe injury or death could occur.

(57) Push winch control lever (8) to the rear.

(58) Reel in cable (9). Use extension handle (35) to guide cable (9) onto winch so cable wraps are level across face of winch.

(59) When end of cable (9) is near rear of truck, release winch control lever (8).

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



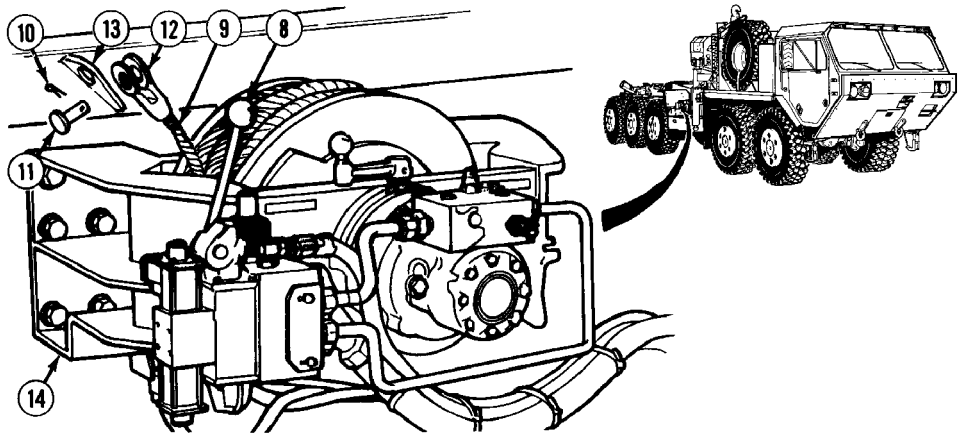
(60) Pull end of cable (9) through cable guide (37).

(61) Pull back and hold tensioning pulley lever (29).

(62) Lift cable out of tensioning pulleys (30).

(63) Release tensioning pulley lever (29).

(64) Pull the cable (9) forward and out of cable guide (37).



(65) Push the winch control lever (8) to the rear and reel in cable (9).

(66) When the cable (9) is approximately 1 ft. (0.31 m) from winch release winch control lever (8).

(67) Route the cable (9) to rear of winch (14).

(68) Install clevis (12) to eyelet (13) with clevis pin (11) and cotter pin (10).

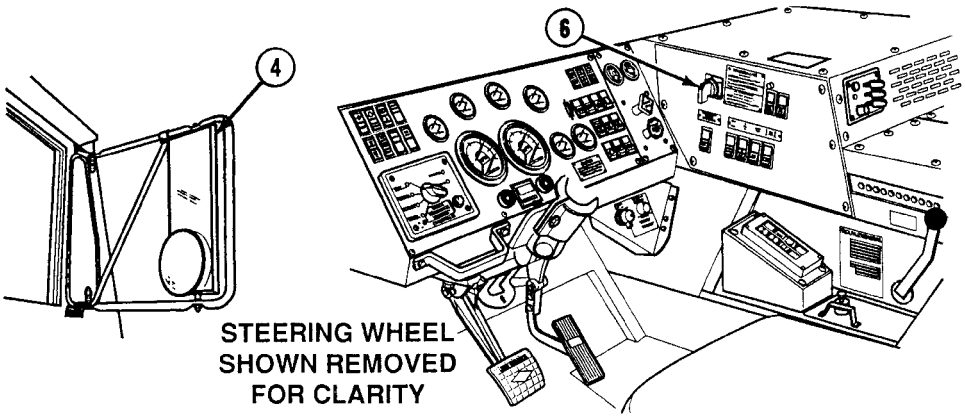
WARNING

- Keep all personnel clear of winch area when winch is reeling in cable. If hands are caught in winch or cable, or if cable breaks under tension, severe injury or death could occur.
- Do not reel in cable too tightly. If too much tension is applied, cable or eyelet can break, or winch may be damaged. Broken cables or roller guides can cause serious injury or death.

(69) Push the winch control lever (8) rearward and take out all slack in cable (9).

(70) When the cable (9) is stowed, release winch control lever (8).

2-45. SELF-RECOVERY WINCH (SRW) (CONT).



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(71) Set hydraulic selector switch (6) to OFF.

(72) Shut off engine (Para 2-23).

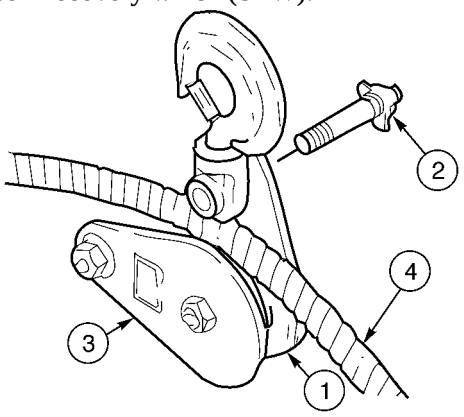
(73) Adjust mirror (4) for driving.

d. Snatch Block.

(1) Installation.

NOTE

The snatch block is used as a mechanical advantage when the load resistance exceeds the capacity of the self-recovery winch (SRW).



(a) Remove snatch block (1) from stowage.

(b) Remove screw (2) from snatch block (1).

(c) Move plate (3) to side to open snatch block (1).

WARNING

Always wear heavy gloves when handling cables. Never let cable run through hands; frayed cables can cut. Failure to comply may result in injury to personnel.

(d) Position cable (4) in snatch block (1).

(e) Close plate (3) and align holes on snatch block (1).

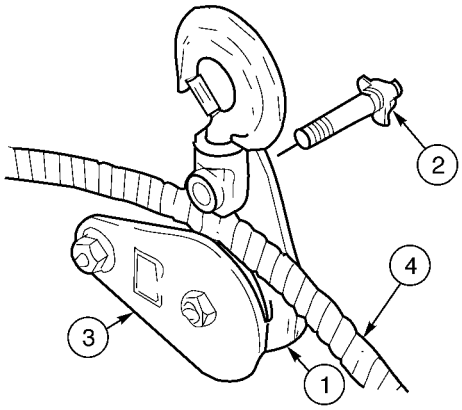
(f) Install screw (2) in snatch block (1).

(g) Ensure screw (2) is tight and cable (4) can move freely through snatch block (1).

(h) Continue with self-recovery operations.

2-45. SELF-RECOVERY WINCH (SRW) (CONT).

(2) Removal.



(a) Ensure there is slack in cable (4).

(b) Remove screw (2) from snatch block (1).

(c) Move plate (3) to side to open snatch block (1).

WARNING

Always wear heavy gloves when handling cables. Never let cable run through hands; frayed cables can cut. Failure to comply may result in injury to personnel.

(d) Remove cable (4) from snatch block (1).

(e) Close plate (3) and align holes in snatch block (1).

(f) Install screw (2) in snatch block (1).

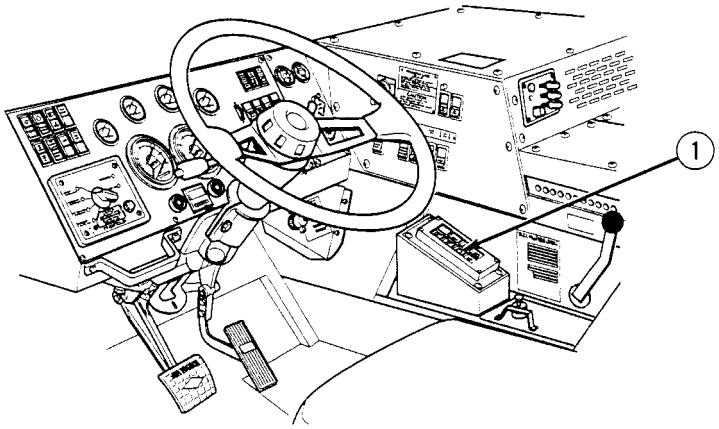
(g) Return snatch block (1) to stowage.

(h) Continue with self-recovery operations.

2-46. OPERATING TRUCK IN EXTREME HEAT.

CAUTION

- When operating truck in very hot temperatures of above 100 degrees F (38 degrees C), extra care must be taken to prevent overheating engine (temperatures over 230 degrees F [110 degrees C]) and transmission (temperatures over 250 degrees F [121 degrees C]). Watch water and transmission temperature gages closely.
- Check oil levels often and keep operating temperatures as low as possible. Truck cooling and lubrication systems support each other. Failure of one system may rapidly cause failure of other system.



(1) Keep operating temperature as low as possible.

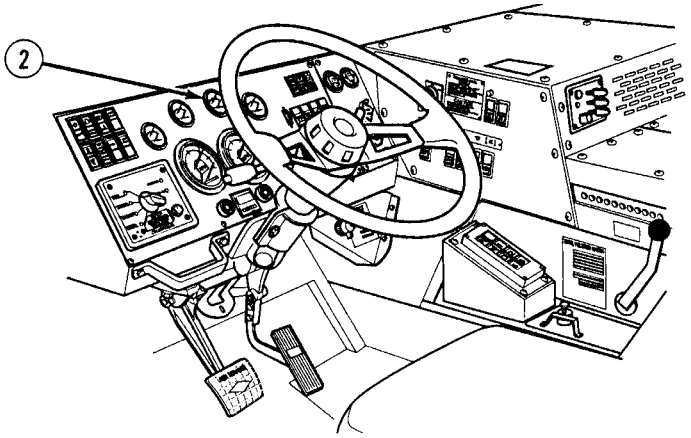
(a) Put the transmission range selector (1) in Neutral (N) position while engine is running. Let the engine idle for about two minutes before shutting down. Idling will cool the engine faster than quick shutdown and may prevent damage from remaining engine heat.

(b) Use low gear ranges only when necessary.

(2) Stop the truck for cooling off periods. Idle engine as often as possible.

(3) Check the oil levels often. Oil seals are more likely to leak in extreme hot weather.

2-46. OPERATING TRUCK IN EXTREME HEAT (CONT).



NOTE

If temperature of transmission fluid is above 270 degrees F (132 degrees C) the CHECK TRANS light will come on, and may not allow shifting into higher ranges.

(4) If the TRANS TEMP gage (2) reads higher than 250 degrees F (121 degrees C), do the following:

(a) Downshift to next lower gear range and continue operation.

(b) When the TRANS TEMP gage (2) reads in normal range, upshift to normal gear range and continue operation.

(c) If the TRANS TEMP gage (2) does not return to normal range, stop truck and let transmission cool.

(d) When the TRANS TEMP gage (2) reads in normal range, shift to normal gear range and continue operation.

(5) Check cooling system often. If any of the following conditions are found, notify Unit Maintenance:

(a) Low coolant level in radiator.

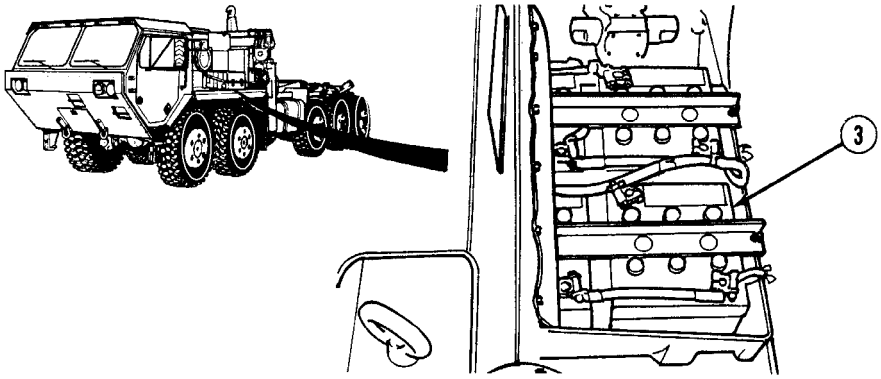
(b) Leaking hose connections which have been tightened but still leak.

(c) Cracked or leaking hoses.

(d) Radiator fins plugged with dust, leaves or insects.

NOTE

Batteries do not hold charge well in extreme heat. Battery will be tagged for use in tropical conditions and will have a white circle printed on top. Battery specific gravity must be changed to adjust for heat (TM 9-6140-200-14).



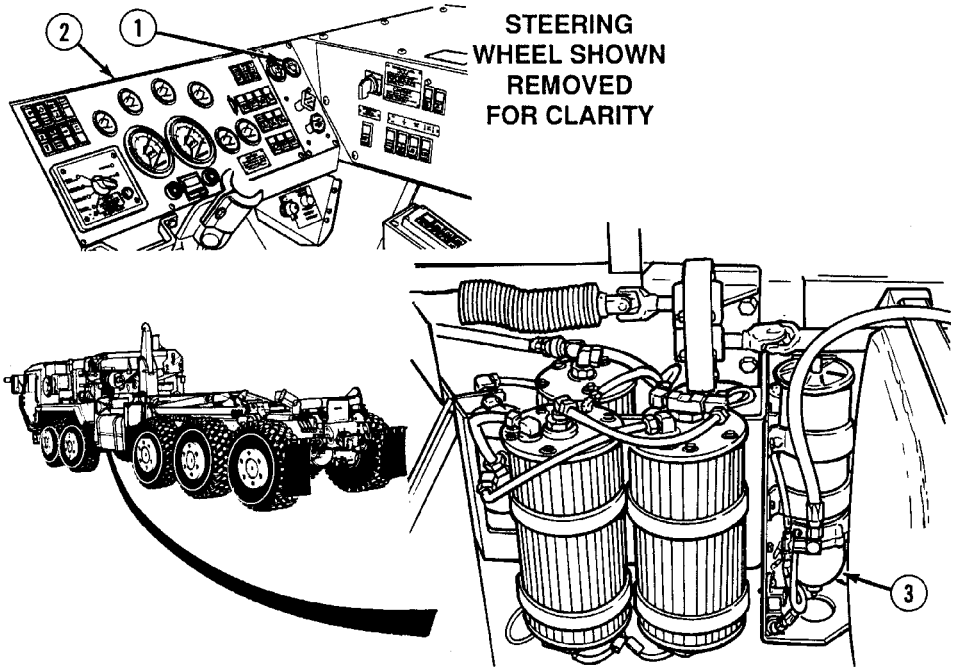
(6) Keep batteries (3) full, but do not overfill.

(7) In hot, damp climates check body and chassis often and notify Unit Maintenance if any of the following are found:

(a) Signs of pitting or paint blistering on metal surfaces.

(b) Signs of mildew, mold or fungus on fabrics or rubber.

2-47 OPERATING TRUCK IN EXTREME DUST.



CAUTION

Clouds of dust can scratch glass surfaces. Keep glass surfaces covered as much as possible in these conditions to prevent scratching.

(1) Leave glass surfaces covered if not needed for operations. Take extra care when cleaning glass to prevent scratching surfaces.

(2) Keep close watch on air filter restriction indicator (1), gages, and warning lights on driver's instrument panel (2). Ensure dust does not affect equipment.

(3) Allow as much distance as possible between trucks and operate at low speeds.

(4) At stops, check and drain the fuel/water separator (3).

(5) When possible, park so the truck does not face into wind.

2-48. OPERATING TRUCK IN MUD, SAND OR SNOW.

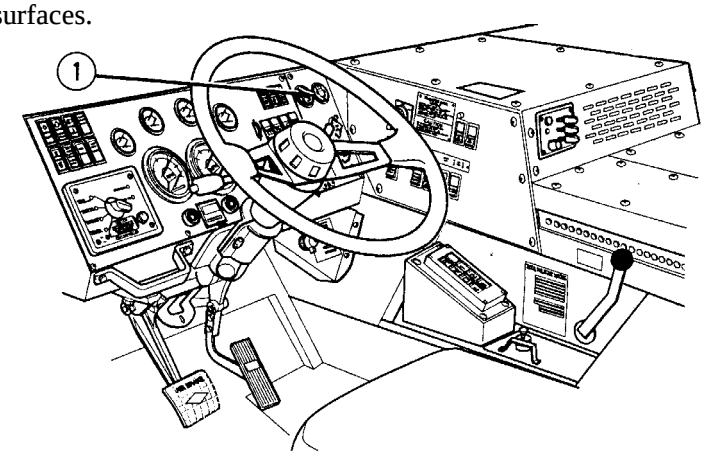
CAUTION

- Before backing truck in mud, sand or snow, mud flaps must be pinned on stowage hook located on mud flap bracket. If mud flap is not pinned, damage may result.
- Blowing sand may scratch glass surfaces. Glass surfaces should remain covered as much as possible in these conditions to prevent scratching.

NOTE

Driving in mud can degrade truck braking and speed up brake shoe wear. If braking worsens while operating in mud, dry brakes by driving truck approximately 500 ft. (153 m) with service brakes frequently applied. This must be done with brake drums totally out of mud so that drying action can take place. If adequate braking is not restored by drying brakes, notify Unit Maintenance.

(1) Leave glass surfaces covered if not needed for operations. Extra care should be taken when cleaning glass surfaces to prevent scratching surfaces.

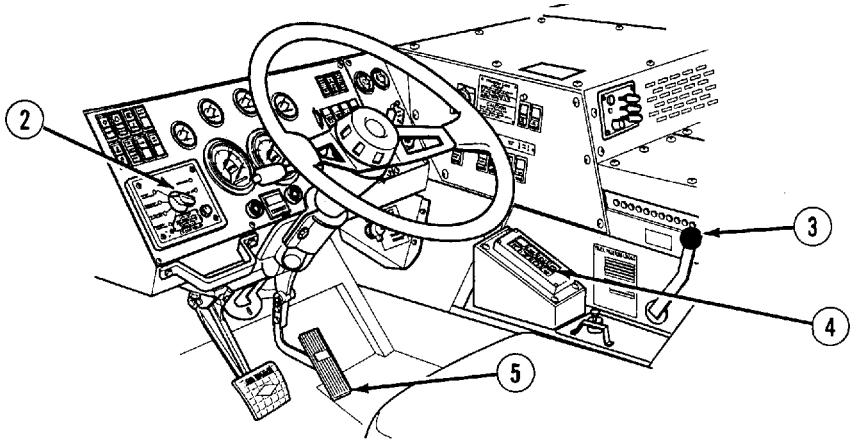


NOTE

- Principles of driving in sand can also be applied to driving in mud.
- The best time to drive on sand is at night or early morning when sand is damp. Damp sand gives better traction.

(2) Check the air filter restriction indicator (1) often.

2-48. OPERATING TRUCK IN MUD, SAND OR SNOW (CONT).



(3) Set the CTIS switch (2) to desired position. Refer to Table 1-28.

(4) Set the transfer case shift lever (3) to LO.

(5) Start slowly. Do not spin the wheels when starting to move truck.

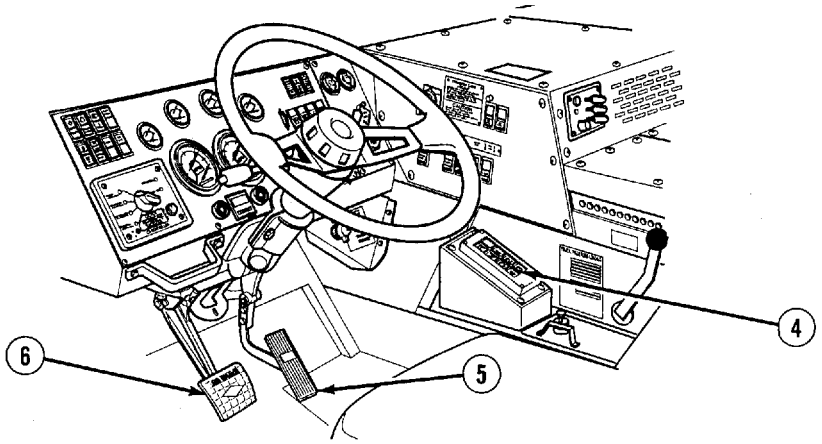
(6) Set the transmission range selector (4) to 2 or 1, as needed, for added traction.

(7) Do not straddle sand mounds or drive on sides of two sand mounds. Loose sand will not support truck on steep slopes.

(8) Keep throttle control (5) steady after truck reaches desired speed.

(9) Turn the truck slowly when on loose sand or mud.

(10) Steer the truck straight up and down hills if possible.



(11) To move the truck forward and turn after truck is stopped in loose sand or mud, do the following:

(a) Set the transmission range selector (4) to Reverse (R).

(b) Press the throttle control (5) and move truck straight back about 20 ft. (6.1 m).

(c) Release the throttle control (5) and press service brake pedal (6).

(d) Set transmission range selector (4) to 1.

(e) Release service brake pedal (6) and press the throttle control (5) to move the truck forward.

(f) Turn truck gradually.

(g) Move transmission range selector (4) to position D when truck picks up speed and is moving forward smoothly.

(12) If truck starts to skid, do the following:

(a) Release the throttle control (5).

(b) Steer in direction of skid until truck stops skidding.

(c) Press the throttle control (5) slowly and steer truck on straight course.

2-48. OPERATING TRUCK IN MUD, SAND OR SNOW (CONT).

(13) Park the truck as follows:

(a) Park so the truck does not face into wind.

(b) Clean mud off truck as soon as possible.

CAUTION

Do not direct high pressure water stream at glass surfaces, seals, air intake, exhaust outlet or any other component of truck that could be easily damaged by high pressure water stream.

(c) Clean mud from the wheels, brakes, axles, universal joints, steering mechanism and radiator as soon as possible.

2-49. OPERATING TRUCK IN DESERT ENVIRONMENT.

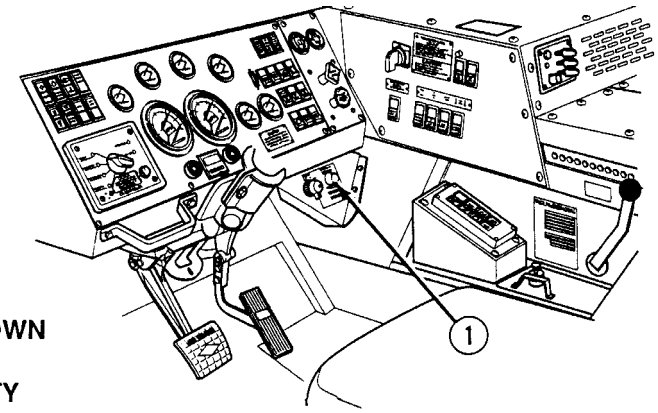
NOTE

FM 90-3 contains detailed instructions for living and working in the desert.

(1) Principles for operating in extreme heat and extreme dust, sand or mud apply to desert environment (Para 2-46 through 2-48).

(2) Temperatures may change as much as 70 degrees F (21 degrees C) between day and night. These changes may damage equipment if truck is not properly prepared. Due to expansion and contraction of all fluids and air, care should be taken when filling fuel tank and fluid reservoirs to prevent overflow when temperatures change.

2-50. OPERATING TRUCK IN COLD ENVIRONMENT +45 DEGREES F TO -25 DEGREES F (+7 DEGREES C TO -32 DEGREES C).

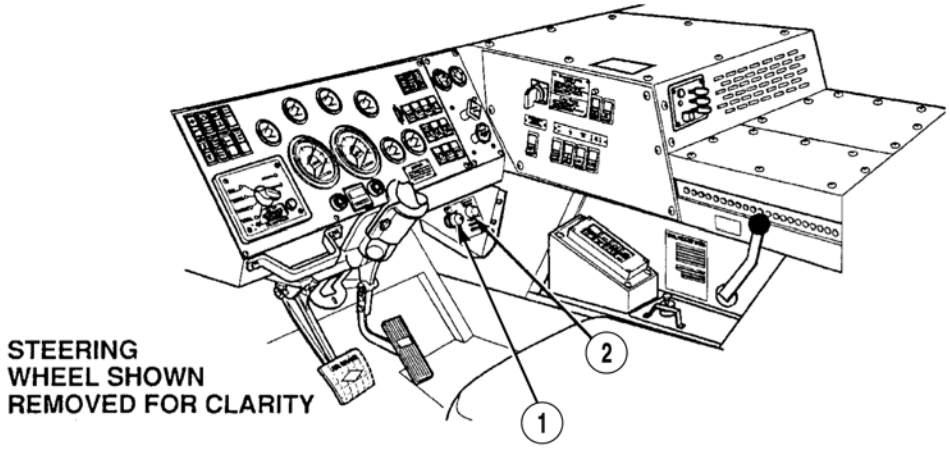


STEERING WHEEL SHOWN REMOVED FOR CLARITY

CAUTION

- In severe cold, engine coolant, fluid in windshield washer can freeze, batteries can freeze and crack, oil and grease may get thick and stiff and rubber may crack or break easily.
- If engine fails to start after four tries, refer to troubleshooting, Chapter 3. Do not turn engine switch to START position while engine is still running or engine damage may result.

2-50. OPERATING TRUCK IN COLD ENVIRONMENT +45 DEGREES F TO -25 DEGREES F (+7 DEGREES C TO -32 DEGREES C) (CONT).

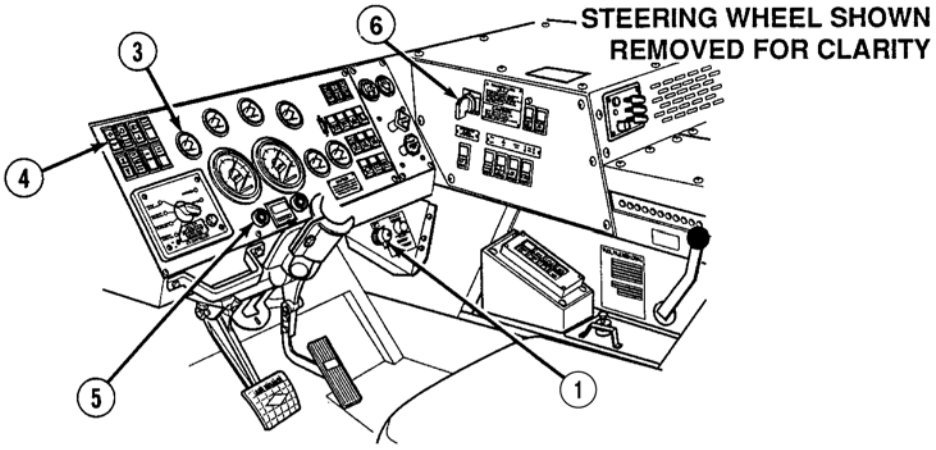


(0.1) Turn engine ON/OFF/START switch (1) to ON position.

NOTE

- Before operating truck in severe cold environment, make sure it has been prepared as described in FM 9-207. Refer to FM 31-70, FM 31-71 and FM 21-305 for additional information on operation in cold environment.
- Perform Step (1):
  - one time for temperatures between +45 degrees F to +10 degrees F (+7 degrees C to -12 degrees C).
  - two times for temperatures between +10 degrees F to -10 degrees F (-12 degrees C to -23 degrees C).
  - three times for temperatures between -10 degrees F to -25 degrees F (-23 degrees C to -32 degrees C).
- Repeat Steps (1) and (2) up to four times.
- If engine fails to start, wait 15 seconds before next start attempt to allow starter motor to cool.

(1) Press and hold ether start switch (2) for five seconds, release and wait five seconds.



(2) Turn engine ON/OFF/START switch (1) to START for no more than 15 seconds. Release engine ON/OFF/START switch (1). Engine ON/OFF/START switch (1) will spring back to ON position. Oil pressure indicator (3) and oil pressure lamp (4) may light and buzzer (5) may sound briefly.

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

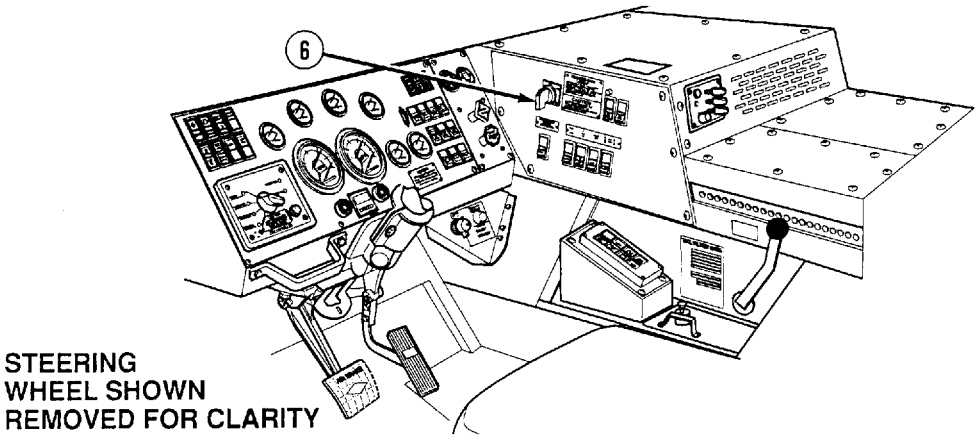
(3) Turn hydraulic selector switch (6) to AUTO.

NOTE

Central Tire Inflation System (CTIS) should be in the ON position only when parked during starts in COLD environments. CTIS will adjust tire pressure during the warm-up period while the truck is parked.

(4) Let engine idle for five minutes.

2-50. OPERATING TRUCK IN COLD ENVIRONMENT +45 DEGREES F TO -25 DEGREES F (+7 DEGREES C TO -32 DEGREES C) (CONT).



NOTE

When running engine at 1200 to 1500 rpm, return engine to idle every two minutes and check that DO NOT SHIFT light is out.

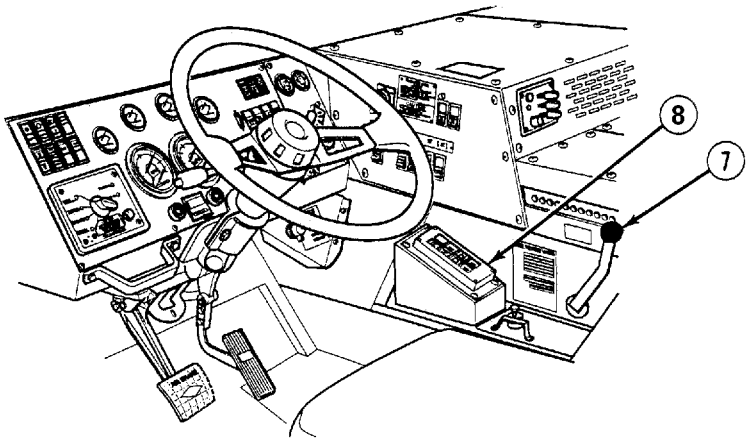
(5) Run engine at 1200 to 1500 rpm until DO NOT SHIFT light goes out.

CAUTION

- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result
- Hydraulic selector switch must be in OFF position before driving or hydraulic system could overheat.

(6) Turn hydraulic selector switch (6) to OFF.

(7) Move CTIS switch to OFF position.



CAUTION

- Do not use low (LO) position on transfer case to move truck, if tires are frozen to the ground or brakes are frozen to the drums. Damage to driveline may result.
- Watch the instrument panel closely. If there are any unusual readings, stop truck and shut off engine. Check immediately.
- All snow and ice should be removed from truck as soon as possible. Snow and ice may slow or stop movement of critical parts if allowed to pile up.

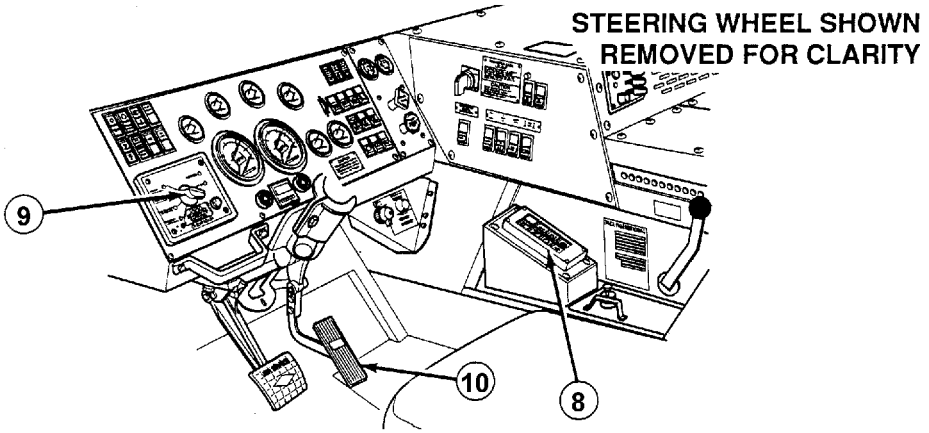
NOTE

If transmission fluid temperature is:

- Below -20 degrees F (-29 degrees C) TRANS CHECK and DO NOT SHIFT lights will illuminate and transmission will only operate in Neutral (N).
- -20 degrees F to +20 degrees F (-29 degrees C to -7 degrees C) TRANS CHECK and DO NOT SHIFT lights will illuminate. When DO NOT SHIFT light extinguishes, transmission will operate in Neutral (N), Reverse (R) and First (1) Ranges only.
- Above +20 degrees F (-7 degrees C) TRANS CHECK light will extinguish and transmission will operate in all Ranges.

(8) Set TRANSFER CASE shift lever (7) to high (HI) and transmission range selector (8) to First gear and drive truck three to five miles to warm drive line components and tires.

2-50. OPERATING TRUCK IN COLD ENVIRONMENT +45 DEGREES F TO -25 DEGREES F (+7 DEGREES C TO -32 DEGREES C) (CONT).



(9) Drive on mud, snow, ice and slippery surfaces as follows:

(a) Move CTIS switch to ON position and set CTIS rotary selection switch (9) to MUD, SAND AND SNOW (Para 2-24).

(b) Press throttle control (10) slowly when changing speed.

(c) Keep throttle control (10) steady after truck reaches desired speed.

(d) Turn truck slowly when on slippery surfaces.

(e) Steer truck away from ruts and large snow banks.

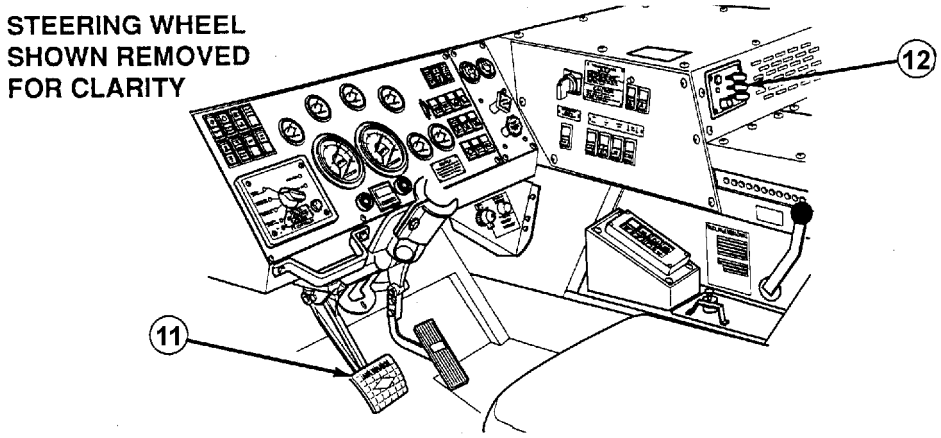
(f) Steer truck straight up and down hills if possible.

(g) Set transmission range selector (8) to 2nd or 3rd gear to go down medium grades.

(h) Drive at slower speeds and keep twice the normal distance from truck ahead.

(i) Activate turn signals sooner.

(j) Install tire chains, if needed (Para 2-52).



WARNING

Apply engine brake only when truck tires have good traction. Use of engine brake on slick surfaces can cause truck to skid and cause injury or death.

NOTE

Pressing brake lightly will help keep truck from skidding.

(k) Apply brakes sooner and press service brake pedal (11) lightly to give early warning that truck will slow or stop.

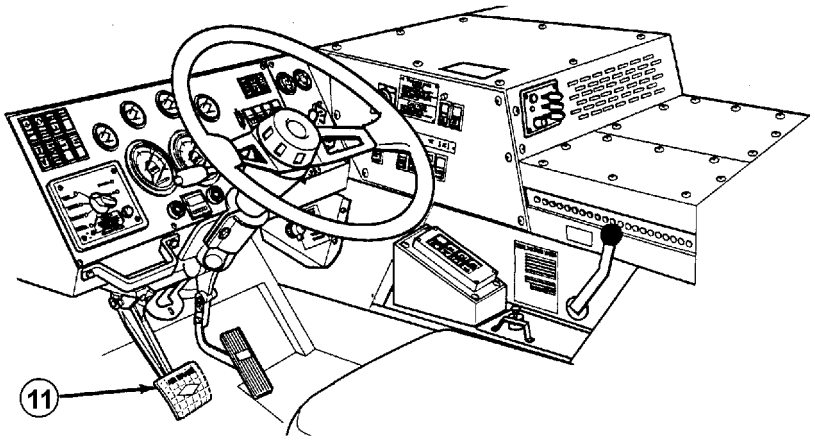
(l) Downshift, if necessary, when slowing or stopping truck on slick surfaces.

CAUTION

- Park in shelter when possible. If shelter is not available, park so front of truck does not face wind. Place planks or brush under wheels so truck will not freeze in place.
- The fuel/water separator should be drained before topping off fuel tank. Keep fuel tank as full as possible during cold operations. Water forms in empty fuel tank as it cools. Water in fuel system could freeze and block system.

(m) Keep windshield, windows, mirrors, headlights, stoplights and body lights clean and free of snow and ice. Use defroster (12) and windshield wipers to keep windshield free of snow and ice.

2-50. OPERATING TRUCK IN COLD ENVIRONMENT +45 DEGREES F TO -25 DEGREES F (+7 DEGREES C TO -32 DEGREES C) (CONT).



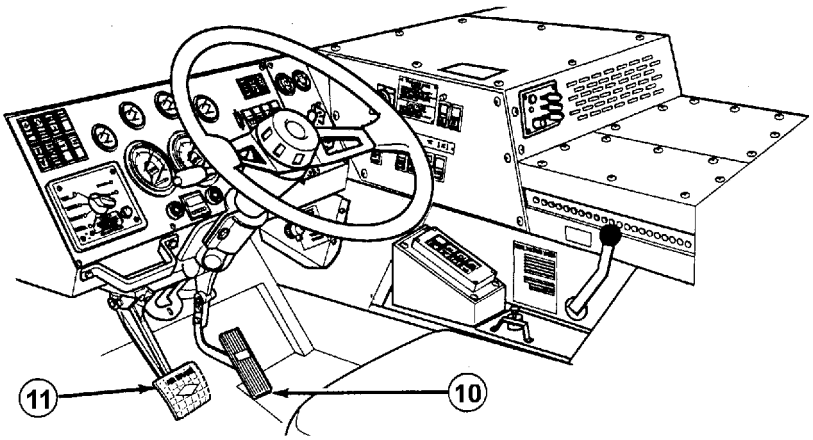
(10) Drive slowly and test brakes after driving through slush or water. If brakes slip, do the following:

(a) Continue to drive slowly.

(b) Apply moderate pressure on service brake pedal (11) to cause slight brake drag.

(c) When brakes are dry and no longer slip, let up on service brake pedal (11).

(d) Resume normal driving speed.



NOTE

Refer to FM 21-305 for additional information on driving in dangerous conditions.

(11) If rear of truck skids, do the following:

(a) Let up on throttle control (10).

(b) Steer in same direction in which truck is skidding.

(c) When truck is under control, press service brake pedal (11) lightly.

(d) Steer truck on straight course and slowly press throttle control (10).

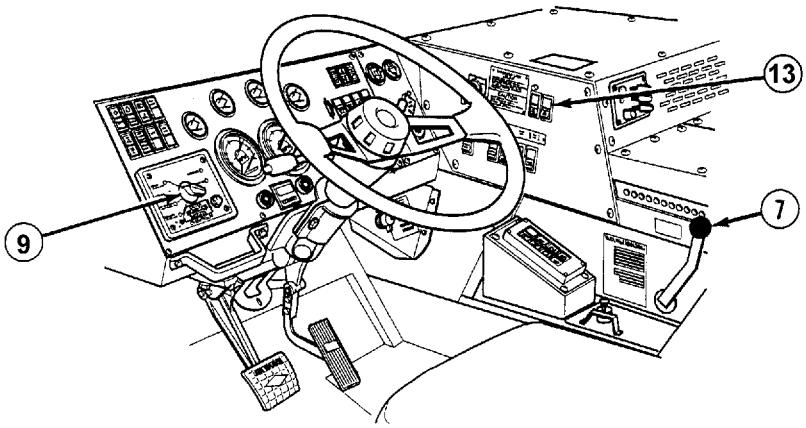
(12) If truck starts to slide while climbing hill, do the following:

(a) Let up on throttle control (10).

(b) Steer truck in direction of slide until truck stops.

(c) Slowly press throttle control (10) and steer truck on straight course.

2-50. OPERATING TRUCK IN COLD ENVIRONMENT +45 DEGREES F TO -25 DEGREES F (+7 DEGREES C TO -32 DEGREES C) (CONT).



CAUTION

Do not change CTIS setting when cornering or when wheels are slipping. Damage to drive line may result.

(13) If absolutely necessary for better traction, set CTIS rotary selection switch (9) to EMERGENCY position. Drive at low speed (five mph [eight km/h]) when tire air pressures are reduced.

NOTE

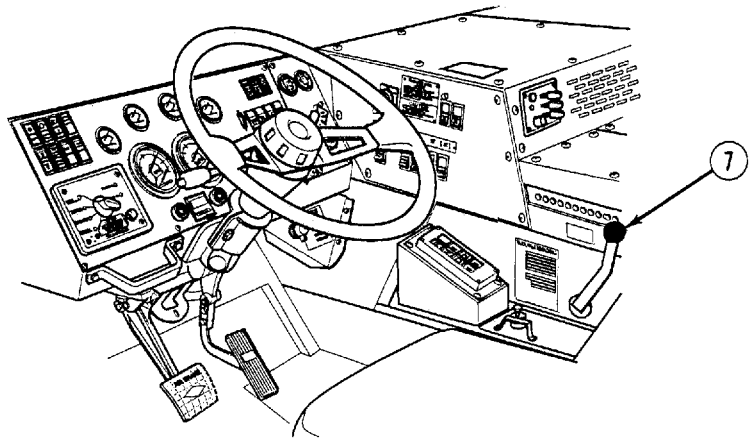
Refer to FM 20-22 for detailed information on truck recovery.

(14) If the truck becomes stuck, do the following:

(a) Shovel a clear path ahead of each wheel. Put boards, brush, or similar material in cleared paths to get better traction. Set CTIS rotary selection switch (9) to EMERGENCY position, transfer case lever (7) to low and engage transfer case lockup switch (13). Drive at low speed (five mph [eight km/h]) when tire air pressures are reduced.

(b) If the truck remains stuck, use another truck to winch or tow stuck truck.

(c) If another truck is not available, use self-recovery winch to free truck (Para 2-45).



(15) Park truck as follows:

(a) Park the truck in sheltered area out of wind if possible. If no shelter is available, park so truck does not face into wind.

(b) Park the truck on high, dry ground if possible. If high, dry ground is not available, spread out planks or brush to make raised and dry area so the tires will not freeze in snow, water, ice or mud.

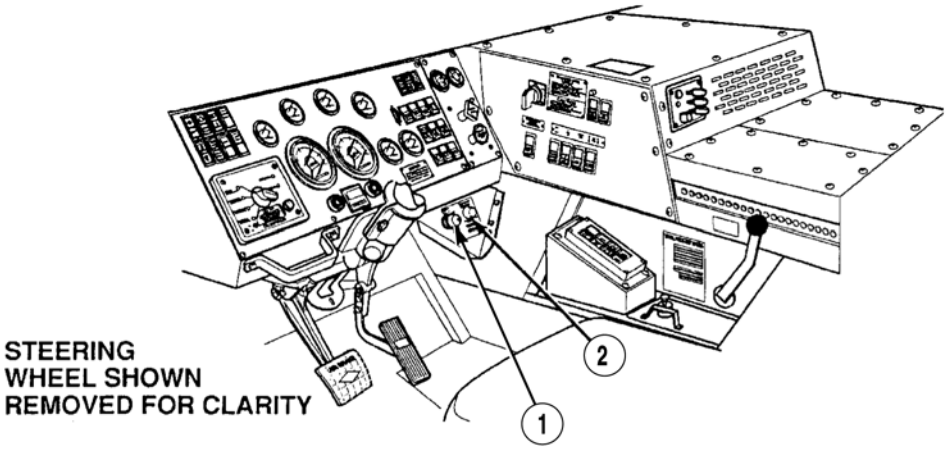
(c) Park the truck on level ground so body does not twist.

(d) Set the transfer case shift lever (7) to LO (Low).

(e) Clean snow, ice and mud off the truck as soon as possible.

(f) Clean mud, snow and ice from wheels, brakes, axles, universal joints, mirrors, steering mechanism and radiator as soon as possible.

2-51. OPERATING TRUCK IN EXTREME COLD ENVIRONMENT -26 DEGREES F TO -50 DEGREES F (-32 DEGREES C TO -46 DEGREES C).



WARNING

Do not touch extremely cold metal (below -26 degrees F [-32 degrees C]). Bare skin may freeze to cold metal and cause injury to personnel.

NOTE

- Principles for operating in cold environment apply to extreme cold environment. Refer to Para 2-50 for operating in cold environment.
- Before operating truck in extreme cold environment make sure arctic kits are installed and truck has been prepared as described in FM 9-207.

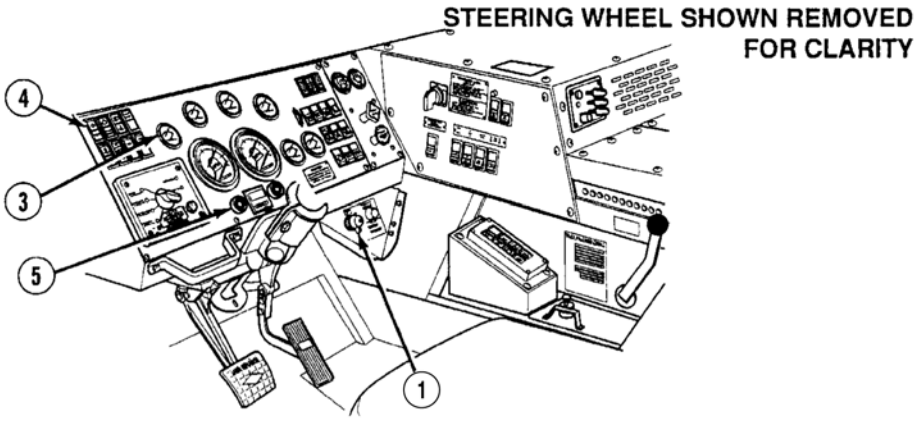
(1) Operate arctic heater (Para 2-28).

(1.1) Turn engine ON/OFF/START switch (1) to ON position.

NOTE

- Repeat Steps (2) and (3) sequence up to four times.
- If engine fails to start after five tries, refer to troubleshooting (Chapter 3).

(2) Press and hold ether start switch (2) for five seconds, release and wait five seconds. Perform this sequence three times.



NOTE

- Watch instrument panel closely. If any unusual readings occur, stop truck and shut off engine. Check immediately.
- If engine fails to start, wait 15 seconds before next start attempt to allow starter motor to cool.

(3) Turn engine ON/OFF/START switch (1) to START for about 15 seconds. Release engine ON/OFF/START switch (1). Engine ON/OFF/START switch (1) will spring back to ON position. Oil pressure indicator (3) and oil pressure lamp (4) may light and buzzer (5) may sound briefly.

NOTE

- If transmission fluid temperature is below -20 degrees F (-29 degrees C) TRANS CHECK and DO NOT SHIFT light will illuminate, and transmission will only operate in Neutral (N) Range.
- CTIS system should be in the ON position only when parked, during starts in extremely cold environments. CTIS will adjust tire pressure during the warm-up period while truck is parked.

(4) Run engine for five minutes, then increase engine speed to 1200 to 1500 rpm until transmission DO NOT SHIFT light goes out.

2-51. OPERATING TRUCK IN EXTREME COLD ENVIRONMENT -26 DEGREES F TO -50 DEGREES F (-32 DEGREES C TO -46 DEGREES C) (CONT).

CAUTION

- Fuel/water separator should be drained before topping off fuel tank. Keep fuel tank as full as possible during cold operations. Water forms in empty fuel tank as it cools. Water in fuel system could freeze and block system.
- All snow and ice should be removed from truck as soon as possible. Snow and ice may slow or stop movement of critical parts if allowed to pile up.
- Special care must be used during operations in extreme cold environment. In extreme cold, engine coolant and fluid in windshield washer can freeze. Batteries can freeze and crack. Oil and grease may get thick and stiff. Rubber may crack or break easily.

(5) Before crane is to be operated perform warm-up as follows:

(a) Prepare crane for use (Para 2-30).

(b) Turn the manual override knob on the MHC main hydraulic pressure valve counterclockwise and pull out knob (Para 2-30). Run for 15 minutes.

(c) Operate right side outrigger jack control (Para 2-30) fully in the DOWN position and hold until the jack descends. Extend the outrigger jack down to the pad, but do not attach the pad. Fully retract the outrigger jack.

(d) Repeat Step (c) using the left side outrigger jack.

(e) Set up the outrigger jacks (Para 2-30).

CAUTION

Mast must be fully extended or damage to equipment may result.

(f) Refer to Para 2-30 Crane Operations and raise the crane to operating position using only the manual controls, and holding each respective control fully open in the appropriate direction until the crane function responds (Para 2-30a). Perform the following operations (g) through (l) in specified sequence for 10 minutes.

(g) Lower the hook block to ground and raise to 2 ft. (0.61 m) from boom nose.

(h) Raise the boom to maximum elevation 50 degrees.

(i) Telescope the boom out fully while operating hoist down to prevent hook block from contacting boom nose.

(j) Fully retract the boom, while operating hoist up to keep hook block approximately 2 ft. (0.61 m) from boom nose.

(k) Lower the boom to horizontal.

(l) Rotate the crane fully counterclockwise (180 degrees) and rotate back fully clockwise.

NOTE

Perform Steps (m) and (n) if using remote control.

(m) Connect the remote control (Para 2-31).

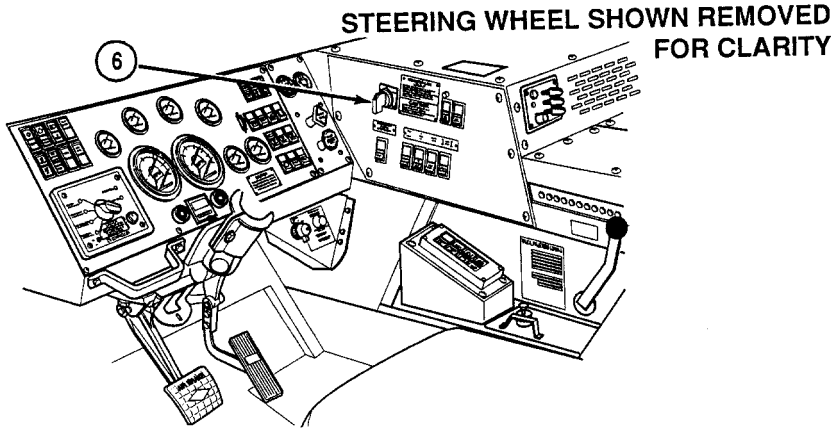
(n) Attempt to operate all crane functions by remote control (Para 2-31), without connecting to load. If any crane function fails to respond, continue to exercise the specific function using the manual control, until it responds to the remote control.

(o) Continue with operation of crane (Para 2-31).

(p) When crane operation is completed, disconnect and stow remote control and cable (if used), and shut down crane (Para 2-31).

(q) Push in manual override knob on the main hydraulic pressure valve and turn clockwise until it locks in (Para 2-31).

2-51. OPERATING TRUCK IN EXTREME COLD ENVIRONMENT -26 DEGREES F TO -50 DEGREES F (-32 DEGREES C TO -46 DEGREES C) (CONT).



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(6) Before operating Load Handling System (LHS), perform warm-up as follows:

(a) Select LHS position on the hydraulic selector switch (6). Allow pump to operate for five minutes at idle. LHS is then ready for operation at idle.

(b) Cycle at idle the LHS (Para 2-29).

(c) After one complete cycle at idle, the LHS is ready for normal operation.

2-52. INSTALL/REMOVE TIRE CHAINS.

a. Install Tire Chains.

WARNING

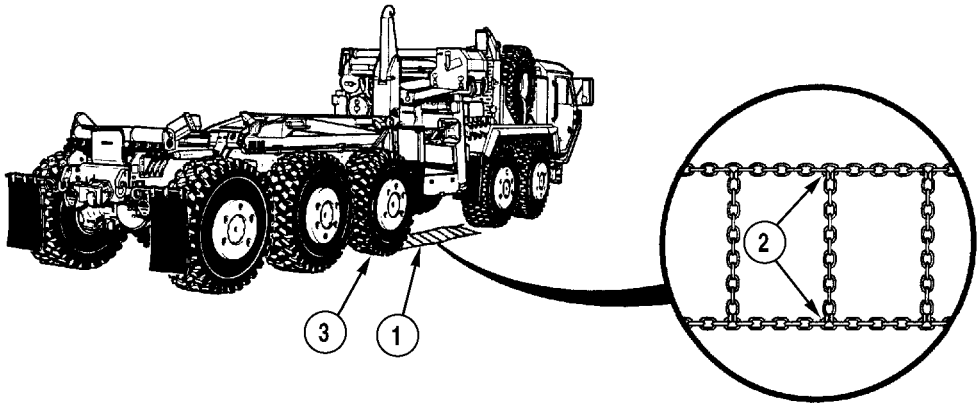
Do not back up truck without ground guide. Limited vision can lead to truck damage and injury to personnel.

CAUTION

- Use tire chains on Axles No. 3 and 4 only. Chains must not be used when driving on hard surfaces where there is no wheel slippage. Improper use of tire chains may result in severe equipment damage.
- Truck Central Tire Inflation System (CTIS) setting must not be set below CROSS COUNTRY setting, or equipment damage may result.
- Maximum speed limit for trucks with chains on highway is 10 mph (17 km/h), off highway is 15 mph (24 km/h) traveling above maximum speed may result in damage to equipment.

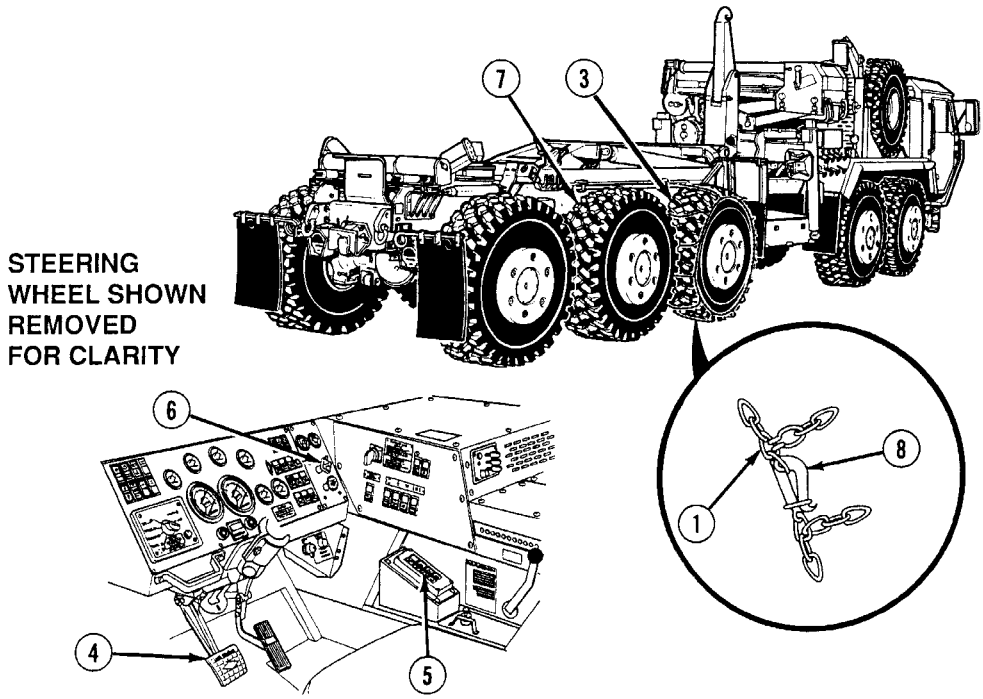
NOTE

The install/remove tire chains task requires two crew members.



(1) Place tire chain (1) on ground with cross chain connecting links (2) facing down in front of tire (3).

2-52. INSTALL/REMOVE TIRE CHAINS (CONT).



(2) Start truck (Para 2-15).

(3) Move truck onto tire chain (1) so tire (3) is about one-third of way on tire chain.

(4) Apply service brake pedal (4).

(5) Place transmission range selector (5) in Neutral (N).

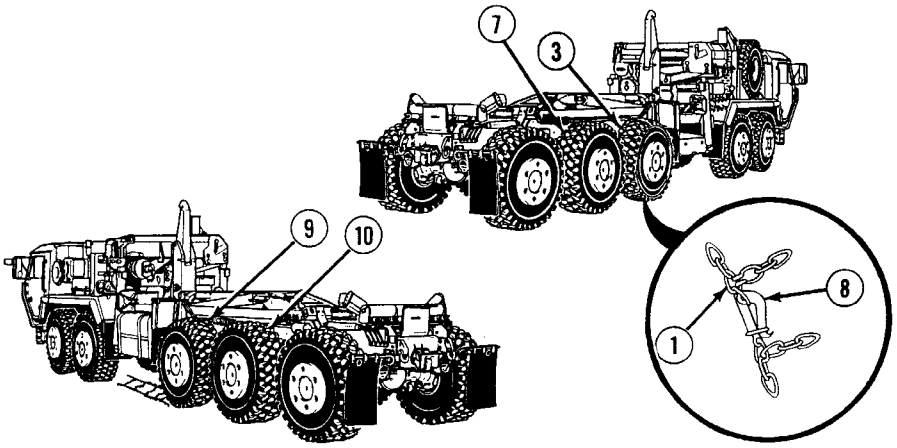
(6) Apply parking brakes (6).

(7) Ensure bottom of tire (7) is not end of tire chain (1).

(8) Shut engine off (Para 2-23).

(9) Wrap tire chain (1) around tire (3).

(10) Connect and secure inside and outside clamps (8) so tire chain (1) is as tight as possible on tire (3).



(11) Repeat Steps (1) through (10) to install tire chains (1) on tires (7), (9) and (10).

b. Remove Tire Chains.

(1) Start truck (Para 2-15).

(2) Move truck into position so tire chain (1) clamps (8) on tire (3) are at four o'clock position.

(3) Park truck (Para 2-22).

(4) Disconnect inside and outside clamps (8) of tire chain (1).

(5) Unwrap tire chain (1) from tire (3) and spread tire chain out on ground behind truck.

(6) Drive truck forward off tire chain (1).

(7) Remove tire chains (1) from tire (9) by repeating Steps (2) through (6).

(8) Move truck into position so clamps (8) on tire (7) are at the eight o'clock position.

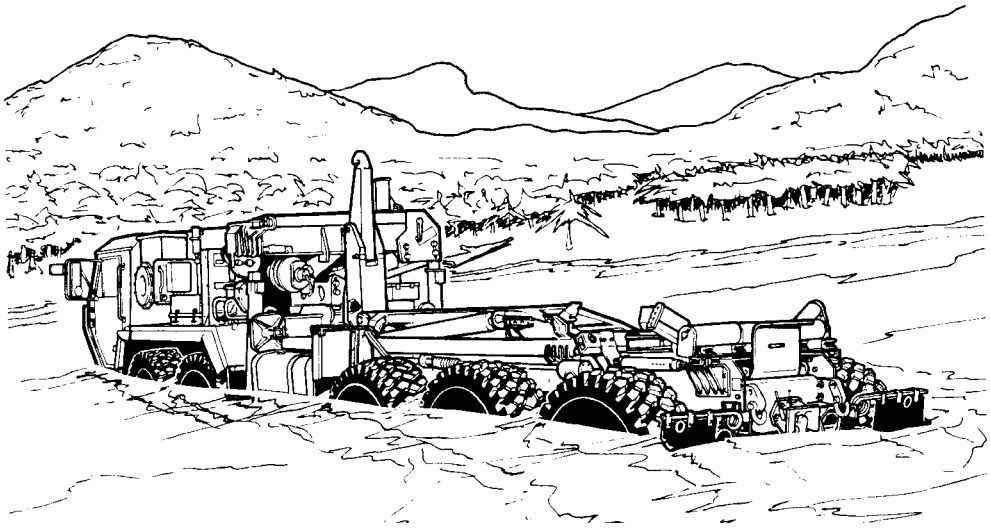
(9) Park truck (Para 2-22).

(10) Repeat Steps (4) through (6).

(11) Remove tire chain (1) from tire (10) by repeating Steps (8) through (10).

(12) Shut engine off (Para 2-23).

2-53. DEEP WATER FORDING.



WARNING

Do not ford water unless depth is known. Water deeper than four ft. (1.2 m) may enter truck causing personnel injury or equipment damage.

CAUTION

Ensure both cab floor drain caps are securely in place before attempting to ford water. Failure to comply may result in damage to equipment.

(1) Ensure depth of fording site is not more than four ft. (1.2 m).

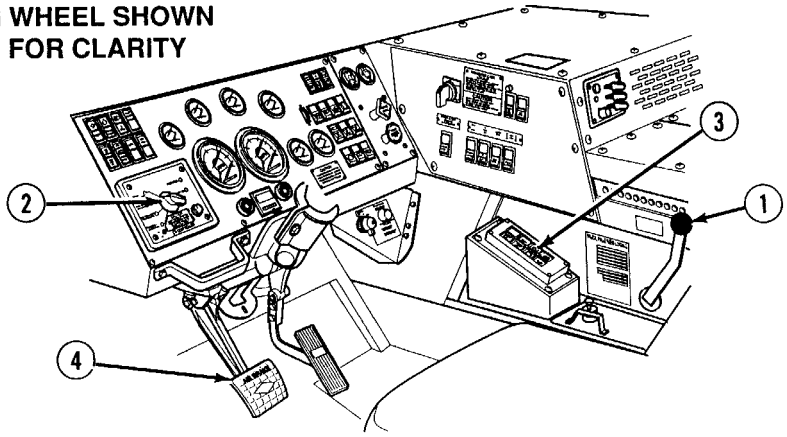
(2) Ensure bottom at fording site is firm enough that four ft. (1.2 m) maximum fording depth will not be exceeded and truck will not become mired.

(3) Stop truck at edge of water.

(4) If brakes have been used heavily and are hot, allow drums and shoes to cool before entering water if possible.

(5) Ensure engine is operating correctly before entering water.

STEERING WHEEL SHOWN
REMOVED FOR CLARITY



(6) Set TRANSFER CASE shift lever (1) to LO.

(7) Set CTIS rotary selector switch (2) to desired position (Para 2-24). Refer to Table 1-28.

(8) Set transmission range selector (3) to 1.

(9) Drive truck slowly into water.

(10) If engine stops, immediately attempt to restart engine. If truck will not start, tow or winch truck from water with another truck as soon as possible.

(11) Drive truck at three to four mph (6.43 km/h), or less, through water.

(12) Unless absolutely necessary, do not stop while in water.

(13) If truck accidentally enters water deeper than four ft. (1.2 m), perform the following:

(a) Press on service brake pedal (4) and hold to stop truck.

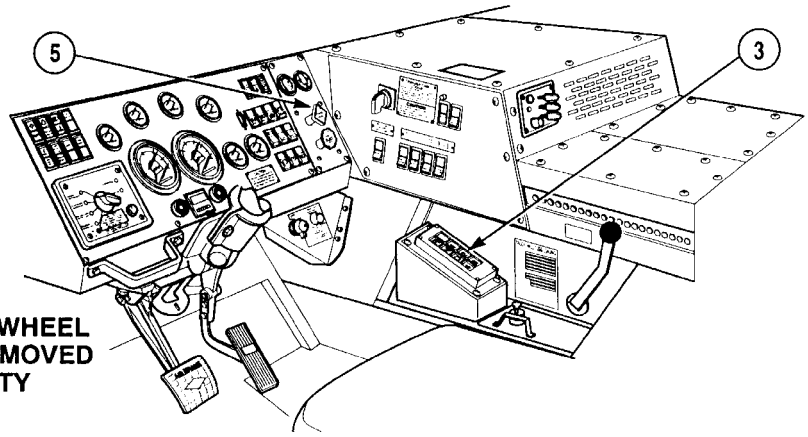
(b) Set transmission range selector (3) to Reverse (R).

(c) Let up on service brake pedal (4).

(d) Slowly back truck out of deep water.

(14) After leaving water, press service brake pedal (4) lightly and hold while driving slowly to dry out brake linings.

2-53. DEEP WATER FORDING (CONT).



(15) When clear of fording area, stop truck.

(16) Apply and release parking brake (5) several times to remove water from brake components.

(17) If CTIS EMERGENCY was selected, set transmission range selector (3) to Reverse (R).

(18) Back up approximately 5 to 10 ft. (1.5 to 3 m) to relieve driveline loading.

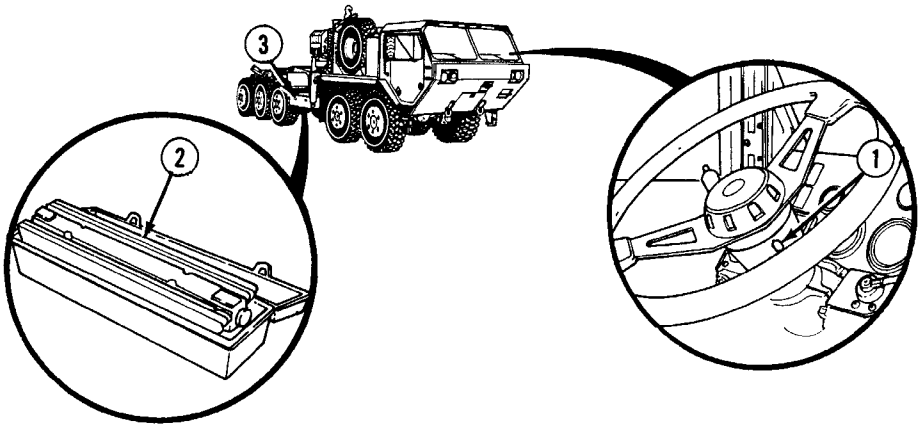
(19) Set transmission range selector (3) to Neutral (N).

(20) Remove water and clean deposits from all truck parts as soon as possible.

(21) Lubricate and perform PMCS check as soon as possible.

(22) For further information refer to TM 9-238.

2-54. OPERATING HIGHWAY EMERGENCY MARKER KIT.



NOTE

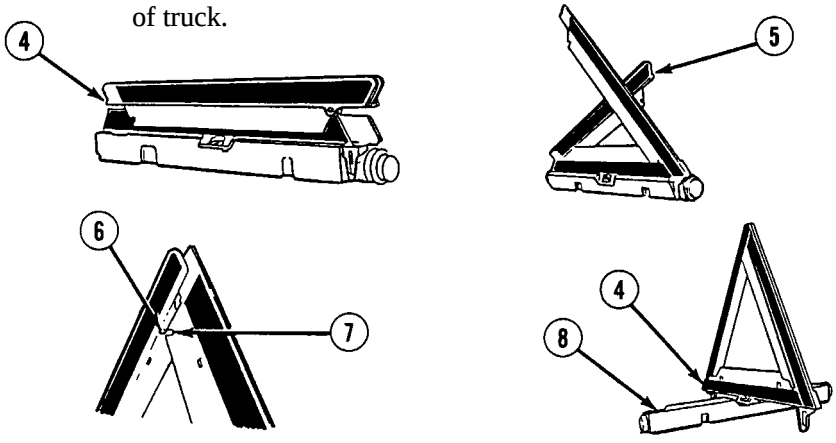
Highway emergency kit should be used to mark location and caution on-coming traffic whenever truck is disabled or must park in areas where there is other traffic.

(1) Turn on emergency flashers (1).

(a) Pull flasher button (1) outward to turn flasher on.

(2) Prepare each marker for use.

(a) Remove emergency marker kit (2) from stowage box (3) on right side of truck.



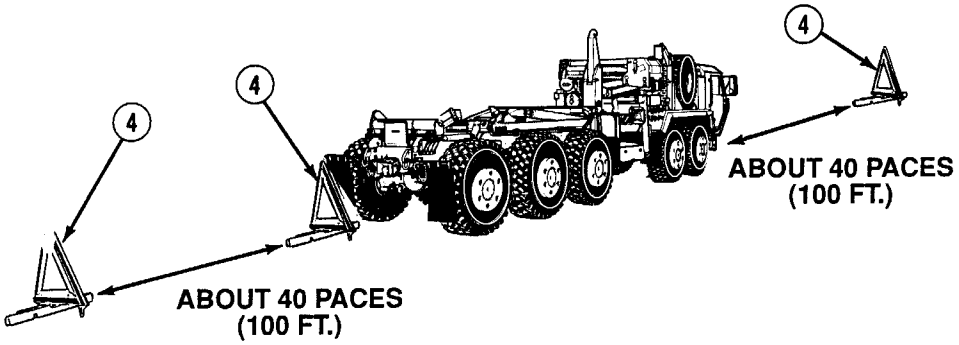
(b) Remove markers (4) from case.

(c) Raise marker arms (5).

(d) Snap pin (6) into slot (7).

(e) Rotate marker (4) about 1/4 turn on base (8) until it stops.

2-54. OPERATING HIGHWAY EMERGENCY MARKER KIT (CONT).

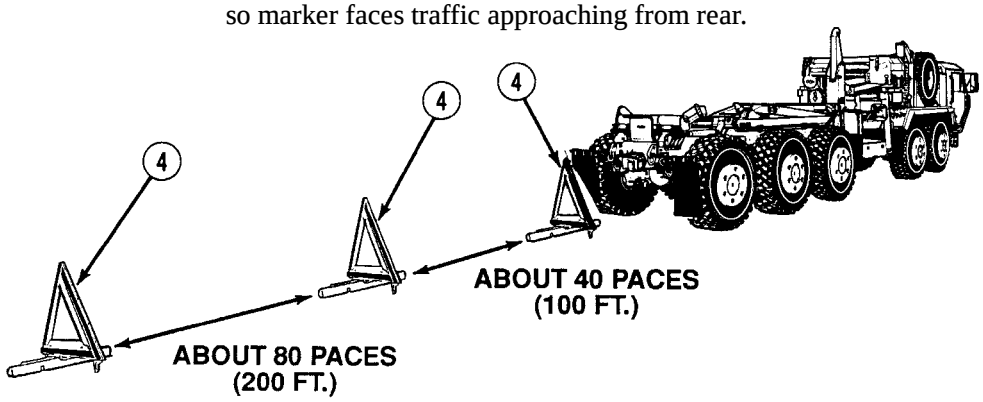


(3) Place markers on undivided highway:

(a) Place one marker (4) about 40 paces (100 ft. [30.5 m]) in front of truck, so marker faces traffic approaching from front.

(b) Place another marker (4) directly behind truck, so marker faces traffic approaching from rear.

(c) Place third marker (4) about 40 paces (100 ft. [30.5 m]) behind truck, so marker faces traffic approaching from rear.



(4) Place markers on divided highway.

(a) Place one marker (4) directly behind truck, so marker faces traffic approaching from rear.

(b) Place second marker (4) about 40 paces (100 ft. [30 m]) behind truck, so marker (4) faces traffic approaching from rear.

(c) Place third marker (4) about 80 paces (200 ft. [61 m]) behind second marker so marker faces traffic approaching from rear.

2-55. PREPARING PLS TRUCK FOR TOWING.

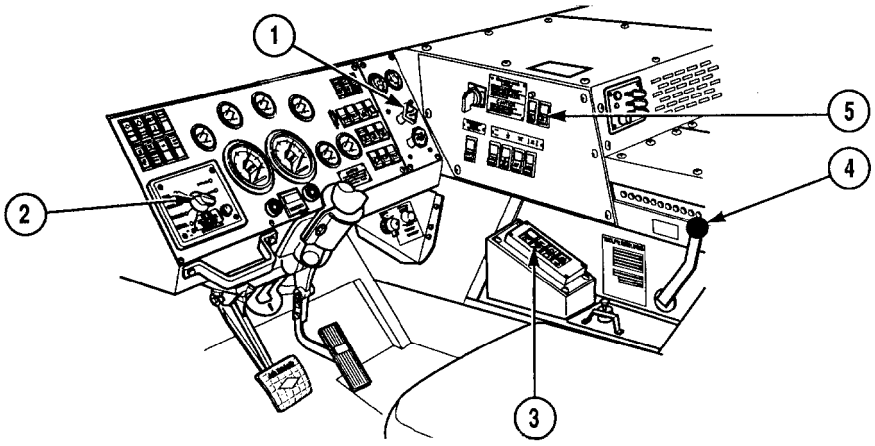
WARNING

The disabled PLS truck being towed, must have no load or less load than the PLS towing truck. Failure to follow proper procedures may cause serious injury or death.

CAUTION

- When towing another vehicle do not go over GCWR given by the data plate on driver's side door. Going over GCWR may cause damage to disabled and towing truck.
- When towing disabled truck, speed must not exceed 35 mph (56 km/h) and towing distance must not exceed 100 miles (161 km). Failure to comply may result in damage to equipment.
- Transfer case of disabled truck must be in Neutral (N) and in the UNLOCKED position or damage to transfer case may result.
- Transfer case lock-up switch of disabled truck must be in the OFF position or damage to equipment may result.
- Transmission of disabled truck must be set in Neutral (N) position or damage to transmission may result.
- CTIS of disabled truck must be set to highway position or damage to axles may result.
- If truck is being towed because of a steering hydraulic failure resulting in fluid loss, both output propeller shafts from transfer case must be disconnected or damage to emergency steering pump may result. Contact Unit Maintenance to remove propeller shafts.

2-55. PREPARING PLS TRUCK FOR TOWING (CONT).



(1) Chock wheels of disabled truck.

(2) Set parking brakes (1) of disabled truck.

CAUTION

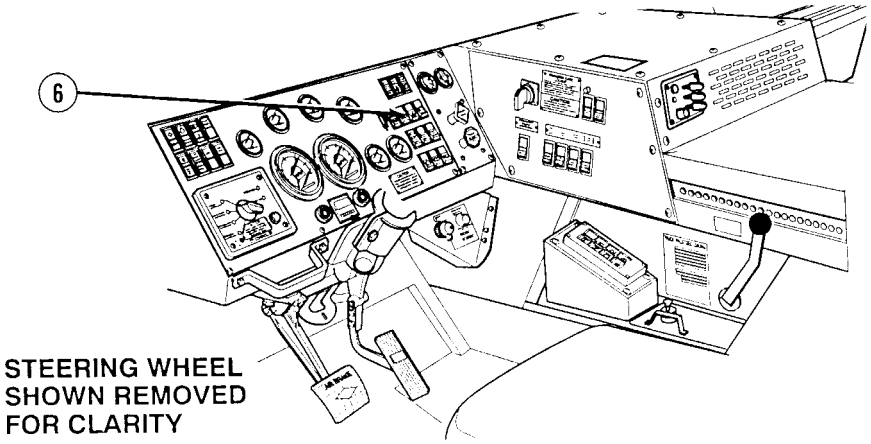
- Tires should be inflated to highway pressure or damage to tires may result (Para 2-57j).
- Do not attempt to start engine if there is obvious engine damage or damage to equipment may result.

(3) Start engine of disabled truck (Para 2-15) and place CTIS rotary selector switch (2) of disabled truck in HIGHWAY position. If CTIS does not work or engine is inoperative, manually inflate tires (Para 2-57j).

(4) Place transmission (3) of disabled truck in Neutral (N) position.

(5) Place TRANSFER CASE shift lever (4) of disabled truck in the NEUTRAL position.

(6) Place TRANSFER CASE LOCKUP switch (5) of disabled truck in the OFF position.



WARNING

If brakes on disabled truck must be manually released, ensure that the wheels of the disabled truck are chocked prior to manually releasing the brakes. Failure to chock wheels could cause serious injury or death to personnel.

NOTE

If the engine of the disabled truck cannot be started, if there is an air leak that cannot be repaired, or if brakes on Axle No. 3, 4 or 5 will not release, then one or all of the rear axle brake chambers on the disabled truck will have to be manually released, (Para 2-56c).

(7) Allow air pressure of disabled truck to build to 125 psi (862 kPa) or manually release rear brakes (Para 2-56c).

(8) Install beacon light on towing truck (Para 3-9).

(9) Turn on beacon light (6).

(10) Hookup disabled truck to towing truck (Para 2-56).

WARNING

Wheels on disabled truck must be chocked prior to disconnecting from towing truck. Failure to chock wheels on disabled truck could cause serious injury or death to personnel.

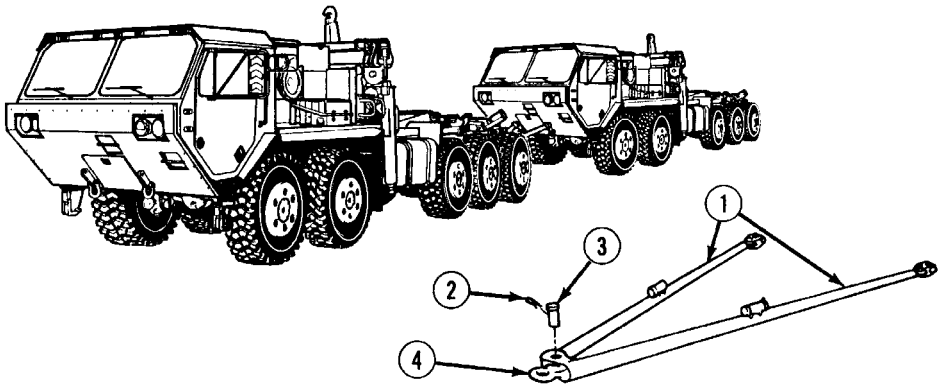
(11) Chock wheels of disabled truck prior to disconnecting towing truck.

2-56. TOW HOOKUP PROCEDURES.

a. Tow Hookup Procedures When Towing Another PLS Truck or an M345, M989 or M989A1 Trailer.

WARNING

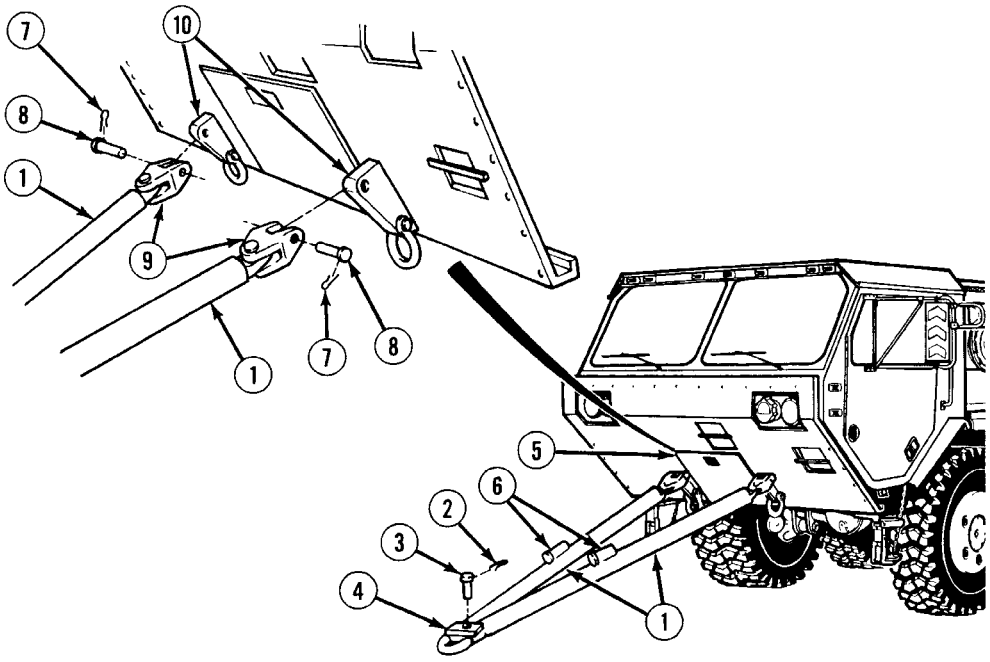
- The disabled truck being towed must have no load or less load than the towing truck or personal injury or death may result.
- Tow bar weighs approximately 330 lbs. (150 kg). Use suitable lifting device or assistants to lift tow bar. Failure to comply may result in serious injury or death to personnel.



(1) Chock wheels of disabled truck.

(2) With the aid of assistants, set tow bar (1) on ground.

(3) Remove cotter pin (2) and pin (3) from pivot point (4) on tow bar (1) and separate tow bar.



(4) Position legs of tow bar (1) below front access cover (5) of disabled truck with pin holders (6) facing up.

(5) Remove two cotter pins (7) and pins (8) from pin holders (6).

WARNING

Tow bar weighs approximately 330 lbs. (150 kg). Use suitable lifting device or assistants to lift tow bar. Failure to comply could cause serious injury or death to personnel.

(6) With the aid of assistants, lift and hold one leg of tow bar (1) and align shackle (9) with towing eye (10).

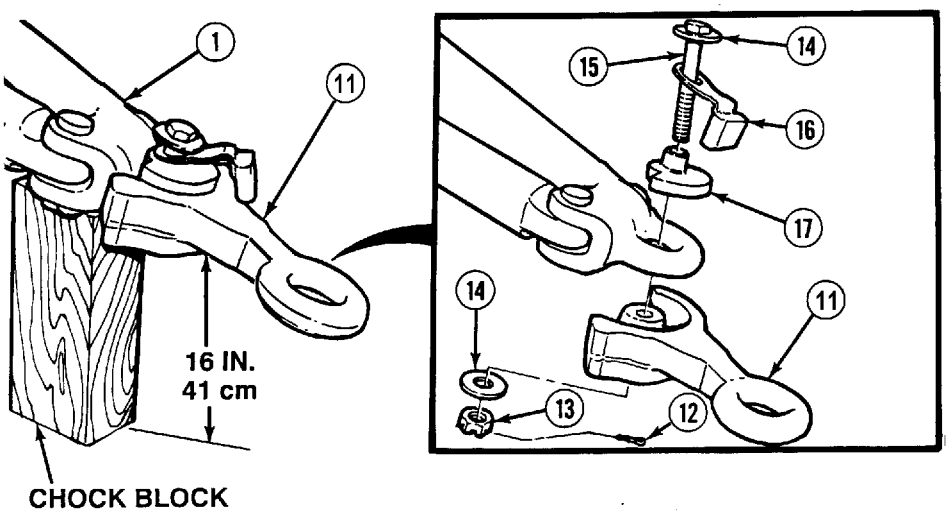
(7) Install pin (8) and cotter pin (7) in towing shackle (9).

(8) With the aid of assistants, lift and hold opposite leg of tow bar (1) and align shackle (9) with towing eye (10).

(9) Install pin (8) and cotter pin (7) in towing shackle (9).

(10) Align legs of tow bar (1) at pivot point (4) and install pin (3) and cotter pin (2).

2-56. TOW HOOKUP PROCEDURES (CONT).



NOTE

- The adapter is required when towing another PLS truck, M989 trailer and the M989A1 trailer. Perform Steps (11) through (14) to install adapter.
- Adapter is not required for towing the M345 trailer.

(11) With the aid of assistants, lift end of tow bar (1) approximately 16 in. (41 cm) off the ground and block using a chock block.

(12) Remove adapter (11) from stowage.

(13) Remove cotter pin (12), nut (13), two washers (14), screw (15), wedge (16) and plate (17) from adapter (11).

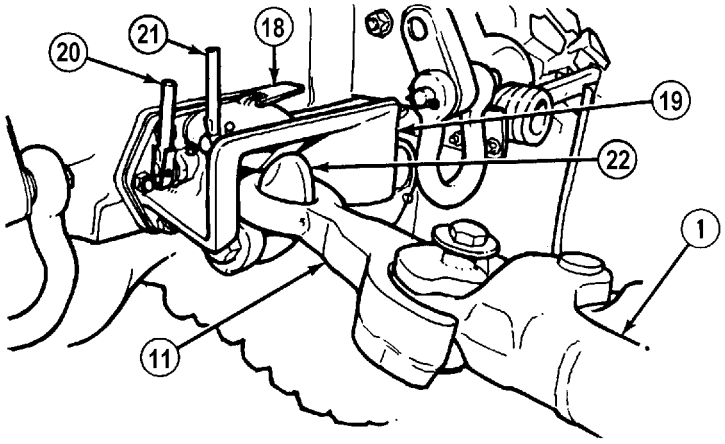
NOTE

Wedge in Step (14) is only used for towing the M989 and M989A1 trailers.

(14) Position adapter (11), plate (17) and wedge (16) on tow bar (1) with two washers (14), screw (15) and nut (13).

(15) Tighten nut (13) on adapter (11).

(16) Install cotter pin (12) on nut (13).



(17) Lift up locking gate (18) on coupler (19).

(18) Pull locking lever (20) out and pull lever (21) back at same time to open coupler jaw (22).

WARNING

Do not put hands near coupler while aligning adapter and tow bar with coupler jaw. If towing truck moves suddenly it may cause serious injury to personnel.

NOTE

- A ground guide must be used for Step (19).
- Coupler jaw will close when tow bar makes contact with coupler.

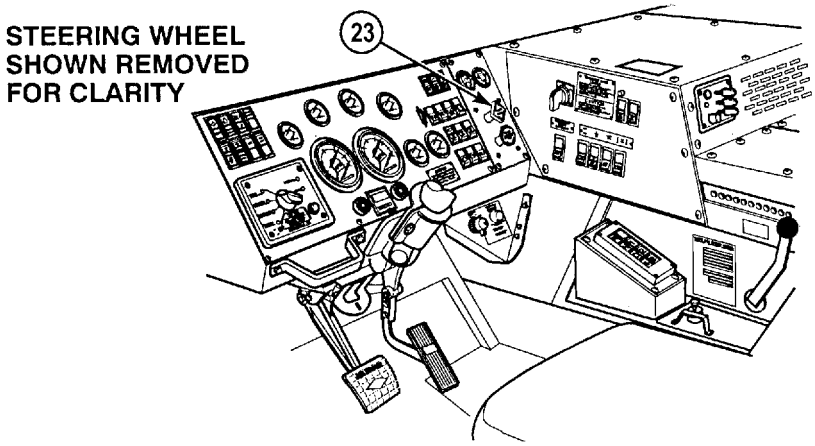
(19) With the aid of assistants, lift tow bar (1) and adapter (11) while another assistant guides towing truck back slowly to disabled truck.

(20) Connect adapter (11) to coupler (19).

(21) Close locking gate (18) on coupler (19).

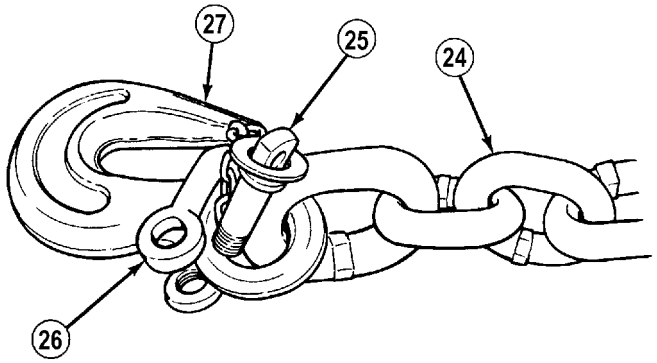
(22) Pull towing truck forward slightly to verify that coupler jaw (22) has locked onto adapter (11).

2-56. TOW HOOKUP PROCEDURES (CONT).



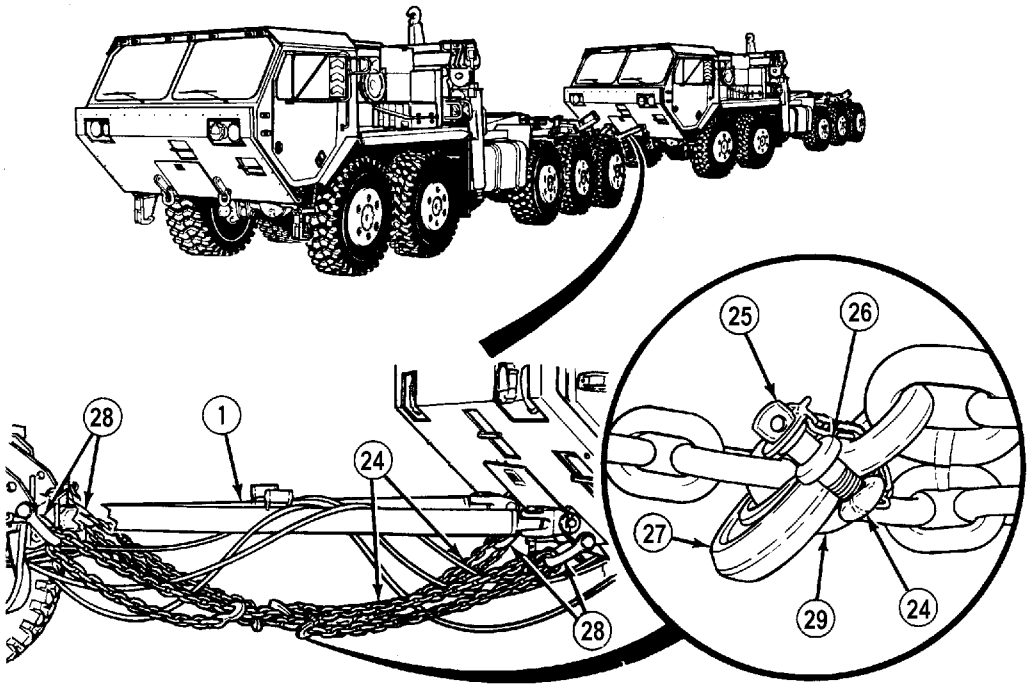
(23) Set parking brakes (23) on towing truck.

(24) Shut off engine on towing truck (Para 2-23).



(25) Remove two safety chains (24) from stowage.

(26) Remove pin (25) and safety clevis (26) from hooks (27) of safety chains (24).



NOTE

- The hooks with the safety clevis must be installed on the towing trucks shackle.
- Adjust chain slack so chain hangs approximately 12 in. (30 cm) above the ground.

(27) Route one chain through right front towing shackle (28) of disabled truck, under tow bar (1) and through left rear towing shackle (28) of towing truck.

(28) Hook safety chain hooks (27) on links (29) of safety chain (24).

(29) Install safety clevis (26) and pin (25) to chain hook (27).

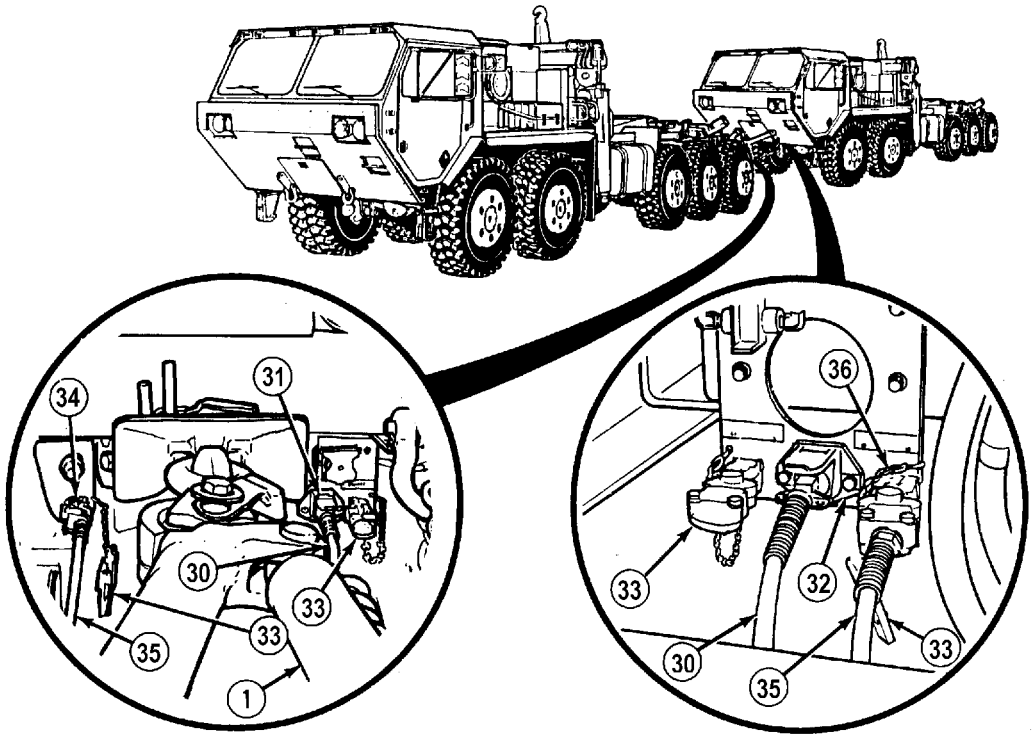
(30) Route second chain (24) through left front towing shackle (28) of disabled truck, under tow bar (1) and through right rear towing shackle (28) of towing truck.

(31) Hook safety chain hooks (27) on links (29) of safety chain (24).

(32) Install safety clevis (26) and pin (25) to safety chain hook (27).

(33) Remove trailer light cable, service air line and emergency air line from stowage.

2-56. TOW HOOKUP PROCEDURES (CONT).



(34) Connect trailer light cable (30) to connector (31) on towing truck.

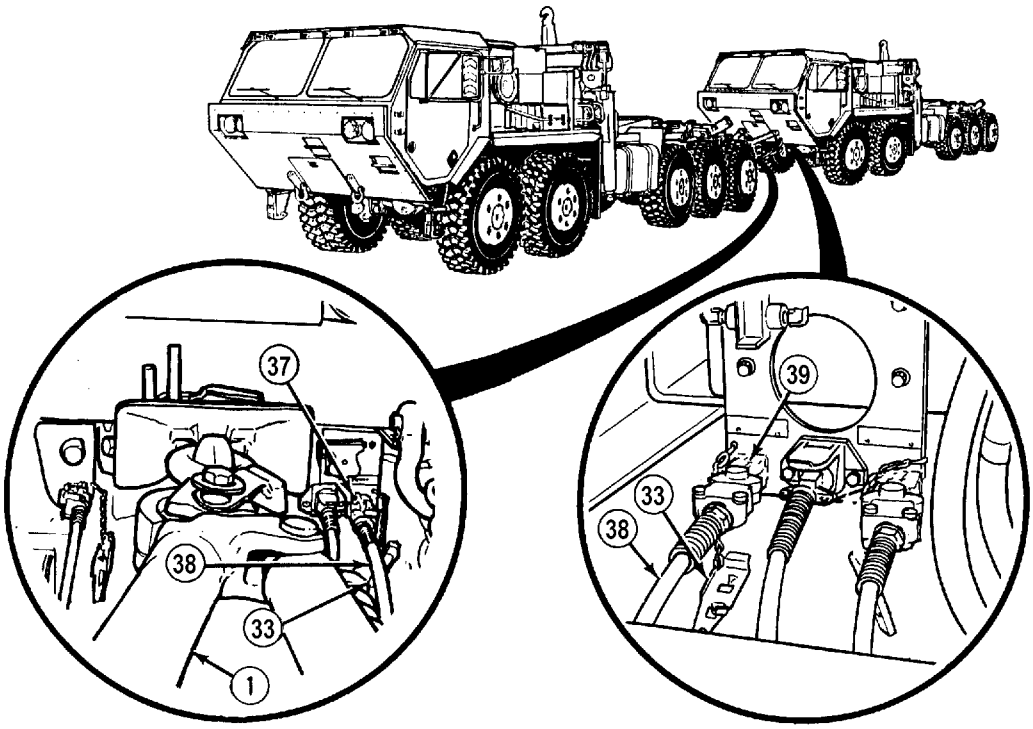
(35) Route trailer light cable (30) over tow bar (1) and connect to connector (32) on front of disabled truck.

(36) Disconnect emergency dummy coupling (33) from emergency gladhand (34) on towing truck.

(37) Connect emergency air line (35) to emergency gladhand (34) of towing truck.

(38) Disconnect emergency dummy coupling (33) from emergency gladhand (36) at front of disabled truck.

(39) Route emergency air line (35) over tow bar (1) and connect to emergency gladhand (36) on front of disabled truck.



(40) Disconnect service dummy coupling (33) from service gladhand (37) on rear of towing truck.

(41) Connect service air line (38) to service gladhand (37) at rear of towing truck.

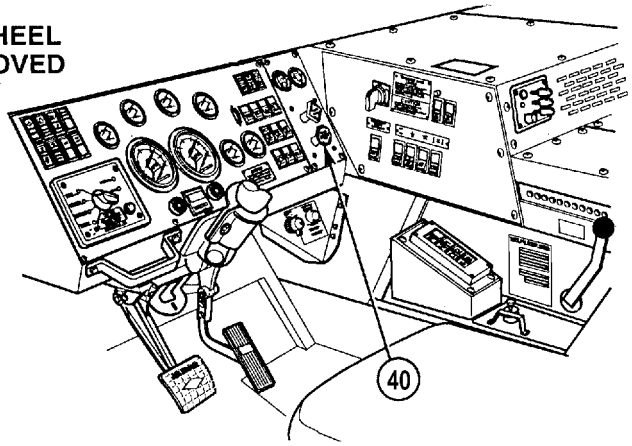
(42) Disconnect service dummy coupling (33) from service gladhand (39) at front of disabled truck.

(43) Route service air line (38) over tow bar (1) and connect to service gladhand (39) on front of disabled truck.

(44) Start engine on towing truck, (Para 2-15).

2-56. TOW HOOKUP PROCEDURES (CONT).

STEERING WHEEL SHOWN REMOVED FOR CLARITY



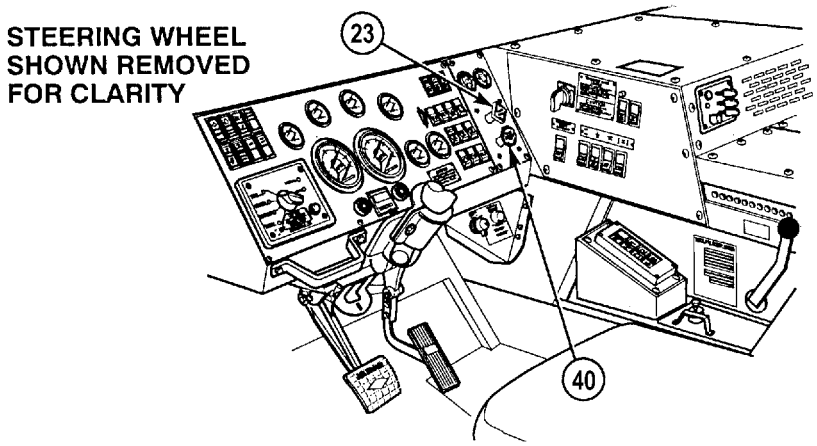
(45) Push in TRAILER AIR SUPPLY KNOB (40) on towing truck.

(46) Remove wheel chocks from disabled truck.

WARNING

- Operation at speeds over 15 mph (24 km/h) on paved road can be achieved when the Operator determines that the disabled truck being towed has braking capability and the terrain allows safe operation. Under these conditions, speeds over 35 mph (56 km/h) will not be allowed. Loss of control of the truck can cause serious injury or death. Excessive speed can cause damage to disabled truck.
- When towed disabled truck does not have braking capability, stopping distances will increase greatly. Do not exceed 25 mph (40 km/h) on paved surfaces or injury or death may result.
- Extreme caution must be used when towing PLS off road. Side slopes and steep grades can cause loss of control resulting in injury or death. Under these conditions, speeds over 15 mph (24 km/h) will not be allowed. Injury or death may result. Excessive speed can cause damage to disabled truck.

(47) Transport disabled truck.



b. Tow Disconnect Procedures When Towing Another PLS Truck or an M345, M989 or M989A1 Trailer.

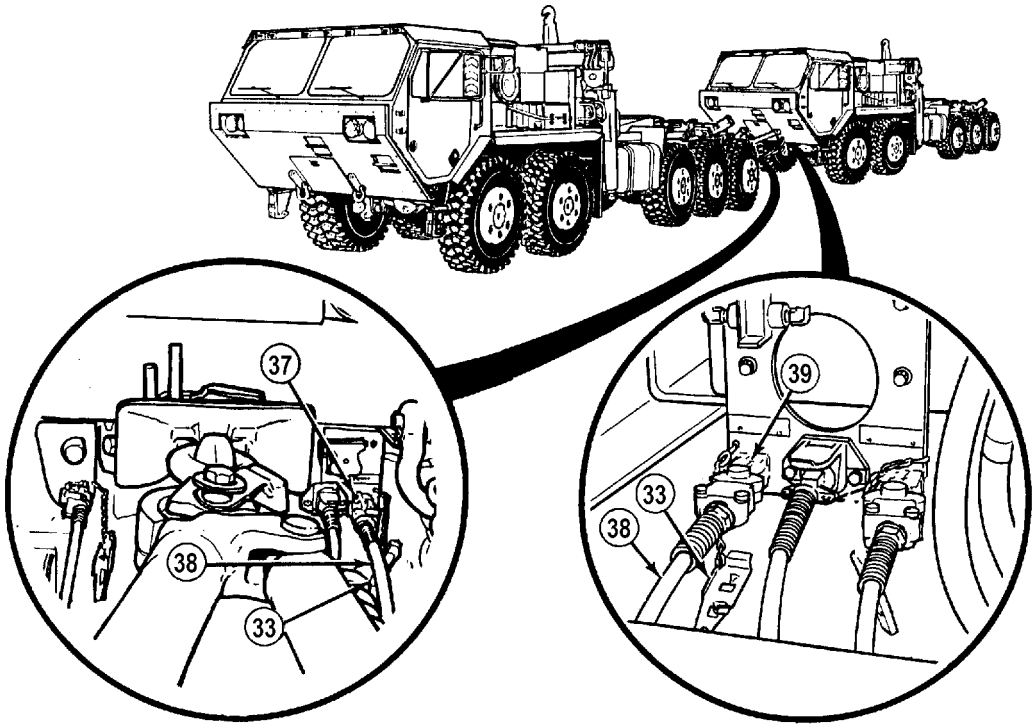
(1) Park towing truck (Para 2-22).

(2) Pull out TRAILER AIR SUPPLY knob (40) on towing truck.

(3) Apply parking brake (23) on disabled truck.

(4) Chock wheels of disabled truck.

2-56. TOW HOOKUP PROCEDURES (CONT).

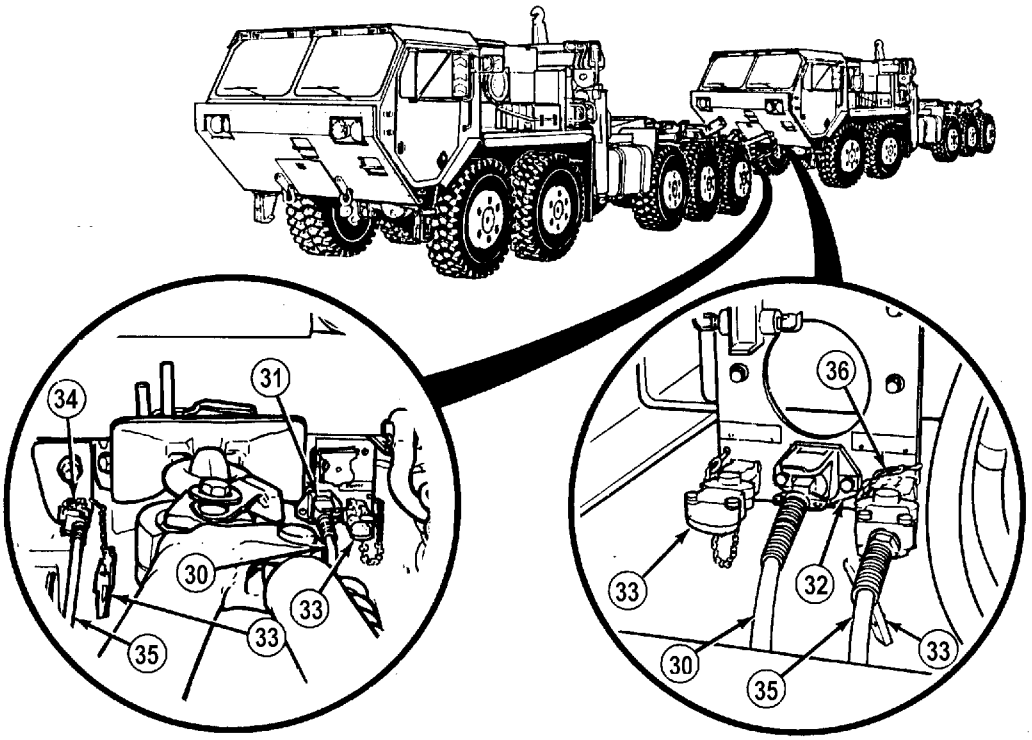


(5) Disconnect service air line (38) from service gladhand (39) on disabled truck.

(6) Connect service dummy coupling (33) on service gladhand (39) of disabled truck.

(7) Disconnect service air line (38) from service gladhand (37) of towing truck and return to stowage.

(8) Connect service dummy coupling (33) on service gladhand (37) on towing truck.



(9) Disconnect emergency air line (35) from emergency gladhand (36) on disabled truck.

(10) Connect emergency dummy coupling (33) on emergency gladhand (36) of disabled truck.

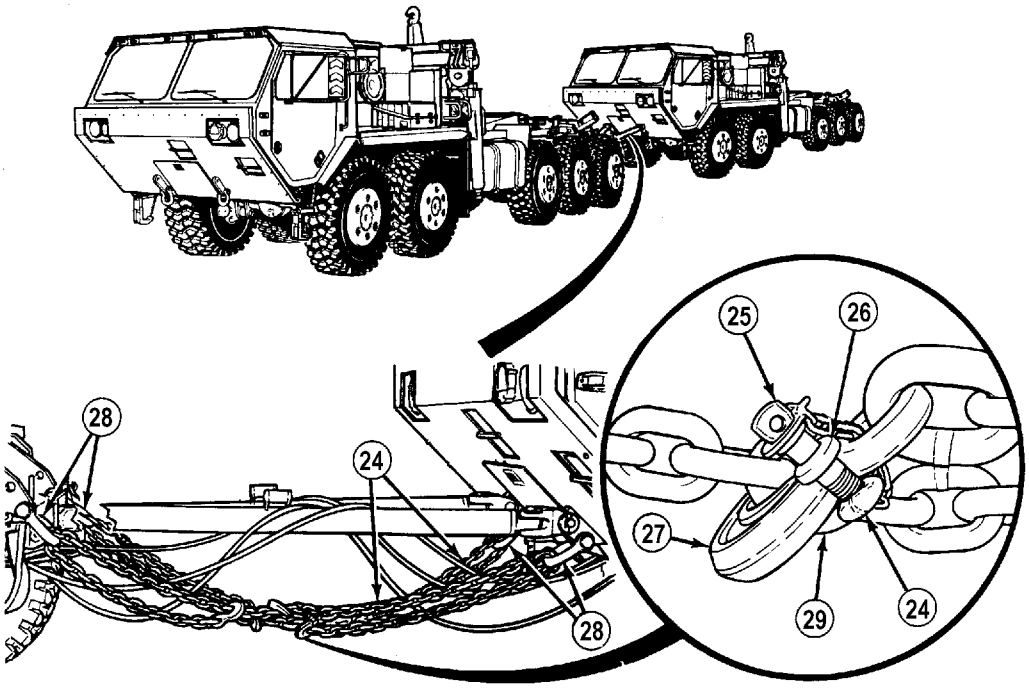
(11) Disconnect emergency air line (35) from emergency gladhand (34) of towing truck and return to stowage.

(12) Connect emergency dummy coupling (33) on emergency gladhand (34) on towing truck.

(13) Disconnect trailer light cable (30) from connector (32) on disabled truck.

(14) Disconnect trailer light cable (30) from connector (31) on towing truck and return to stowage.

2-56. TOW HOOKUP PROCEDURES (CONT).



(15) Remove pins (25) and safety clevis's (26) from chain hooks (27).

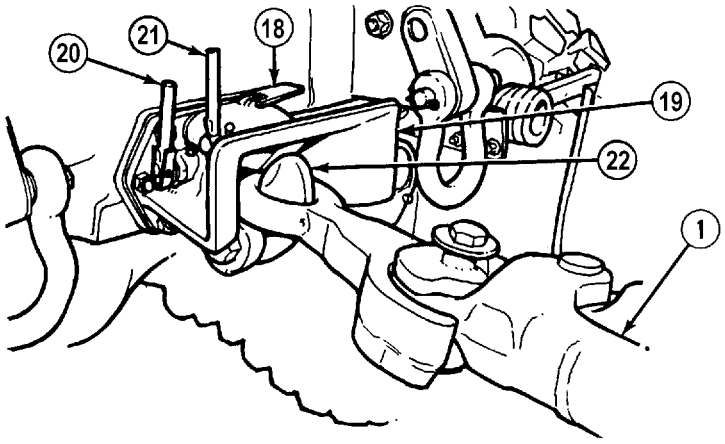
(16) Remove safety chain hooks (27) from links (29) of safety chains (24).

(17) Remove one safety chain (24) from right towing shackle (28) of disabled truck and from left towing shackle (28) of towing truck.

(18) Remove second safety chain (24) from left towing shackle (28) of disabled truck and from right towing shackle (28) of towing truck.

(19) Install pins (25) and safety clevis's (26) to chain hooks (27).

(20) Return two safety chains (24) to stowage.



WARNING

Tow bar weighs approximately 330 lbs. (150 kg). Personnel must stand clear of tow bar while disconnecting. Tow bar will drop to the ground as towing truck pulls forward. Failure to follow proper procedures can cause serious injury to personnel.

(21) Open locking gate (18) on coupler (19).

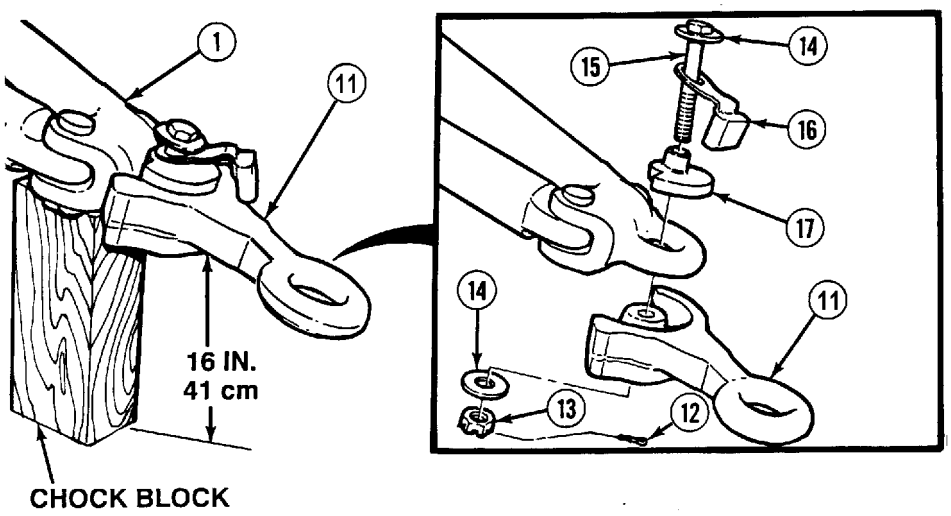
(22) Pull locking lever (20) out and pull lever (21) back at the same time to open the coupler jaw (22).

(23) Slowly pull towing truck forward until tow bar (1) drops from coupler (19).

(24) Push up on coupler jaw (22) to close coupler (19).

(25) Close locking gate (18) on coupler (19).

2-56. TOW HOOKUP PROCEDURES (CONT).



NOTE

Perform Steps (26) through (30) if adapter was installed.

(26) With the aid of assistants, lift end of tow bar (1) approximately 16 in. (41 cm) off the ground and block using a chock block.

NOTE

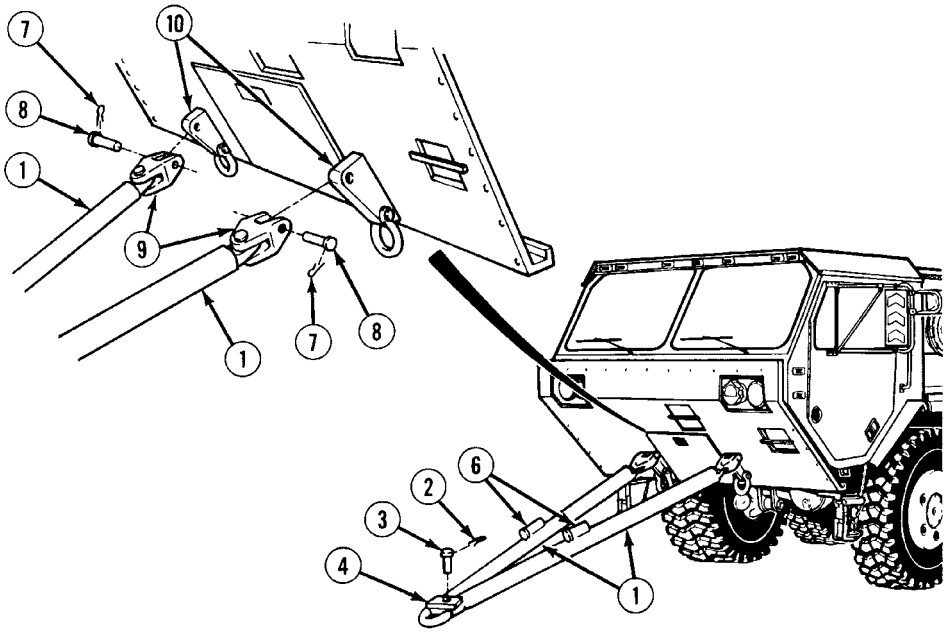
Wedge in Step (27) is only used for towing M989 and M989A1 trailers.

(27) Remove cotter pin (12), nut (13), two washers (14), screw (15), wedge (16) and plate (17) from adapter (11).

(28) Remove adapter (11) from tow bar (1).

(29) Install plate (17) and wedge (16) on adapter (11) with two washers (14), screw (15), nut (13) and cotter pin (12).

(30) Stow adapter (11).



WARNING

Tow bar weighs approximately 330 lbs. (150 kg). Use suitable lifting device or assistants to lift tow bar. Failure to comply could cause serious injury or death to personnel.

(31) Remove cotter pin (2), pin (3) and separate tow bar (1) at pivot point (4).

(32) With the aid of assistants, hold one leg of tow bar (1) and remove cotter pin (7), pin (8) and tow bar shackle (9) from towing eye (10).

(33) With the aid of assistants, hold the other leg of tow bar (1) and remove cotter pin (7), pin (8) and tow bar shackle (9) from towing eye (10).

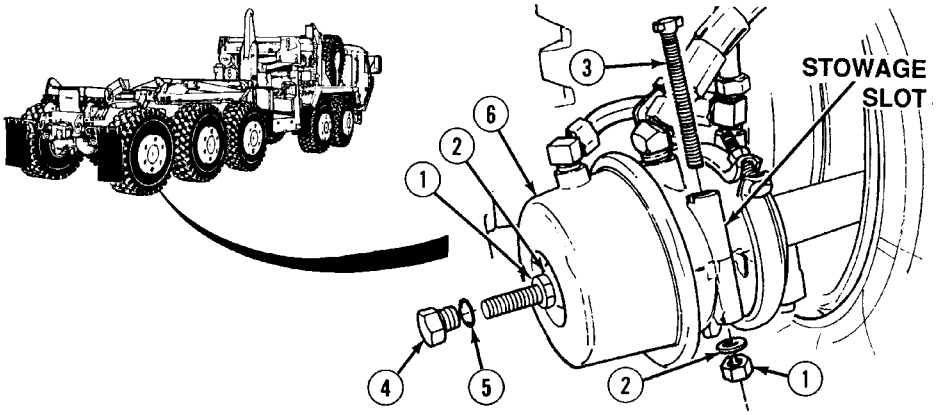
(34) Install two pins (8) and cotter pins (7) on pin holders (6).

(35) Align legs of tow bar (1) at pivot point (4) and install pin (3) and cotter pin (2).

(36) Stow tow bar (1).

2-56. TOW HOOKUP PROCEDURES (CONT).

c. Manually Release and Set Spring Brakes (Brake Chambers).



WARNING

- Brake chamber contains a spring that is under pressure. To prevent injury or death, never work directly behind brake chamber. Do not disassemble brake chamber.
- Chock the truck wheels between Axles No. 3 and 4 on both sides of the truck. Failure to chock the wheels could result in severe injury or death.

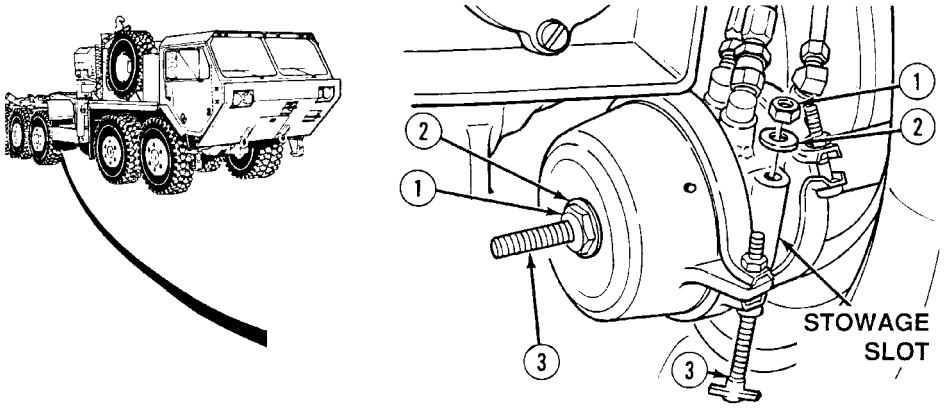
NOTE

This procedure is used when the disabled truck's air system is inoperative and the disabled truck cannot be towed with the back end raised by a wrecker. It is only necessary to release the brakes on Axles No. 3, 4 and 5.

(1) Remove nut (1) and washer (2) from caging bolt (3) in stowage slot.

(2) Remove caging bolt (3), protective cap (4) and preformed packing (5) from brake chamber (6).

(3) Insert T-end of caging bolt (3) into the hole on rear of the brake chamber (6). Rotate caging bolt (3) clockwise 1/4 turn in brake chamber (6) until it stops.



NOTE

- If caging bolt cannot be pulled directly out it is properly inserted.
- Spring is fully compressed when caging bolt is sticking out approximately three in. (8 cm).

(4) Install the caging bolt (3) using washer (2) and nut (1). Tighten until spring is fully compressed.

(5) Repeat Steps (1) through (3) for the other brake chambers.

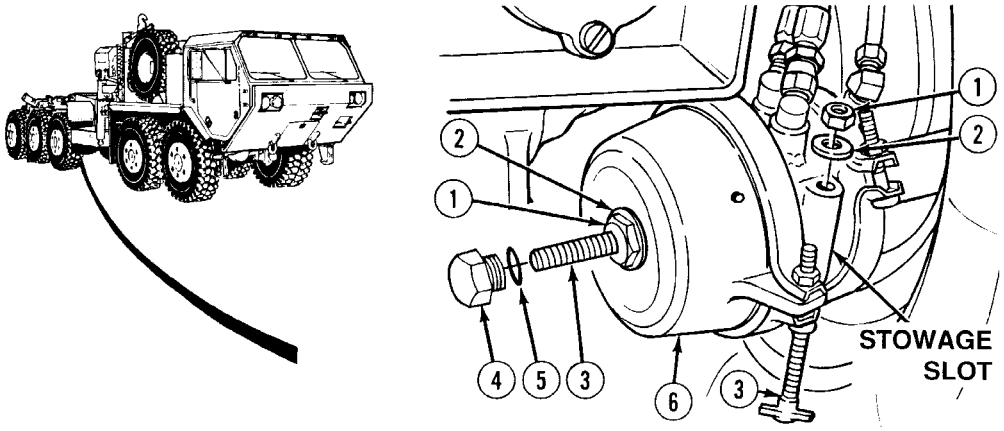
(6) The procedure for setting the brakes is as follows:

WARNING

Brake chamber contains a spring that is under pressure. To prevent injury or death, never work directly behind brake chamber. Do not disassemble brake chamber.

(a) Remove nut (1) and washer (2) from caging bolt (3).

2-56. TOW HOOKUP PROCEDURES (CONT).



(b) Turn caging bolt (3) counterclockwise 1/4 turn and remove from brake chamber (6).

(c) Install caging bolt (3) in stowage slot with washer (2) and nut (1).

NOTE

When mission is completed, have Unit Maintenance replace preformed packing and tighten protective cap to 120 lb.-in. (14 N·m).

(d) Install preformed packing (5) and protective cap (4) on brake chamber (6).

2-57. EMERGENCY PROCEDURES.

a. Slave Start Truck.

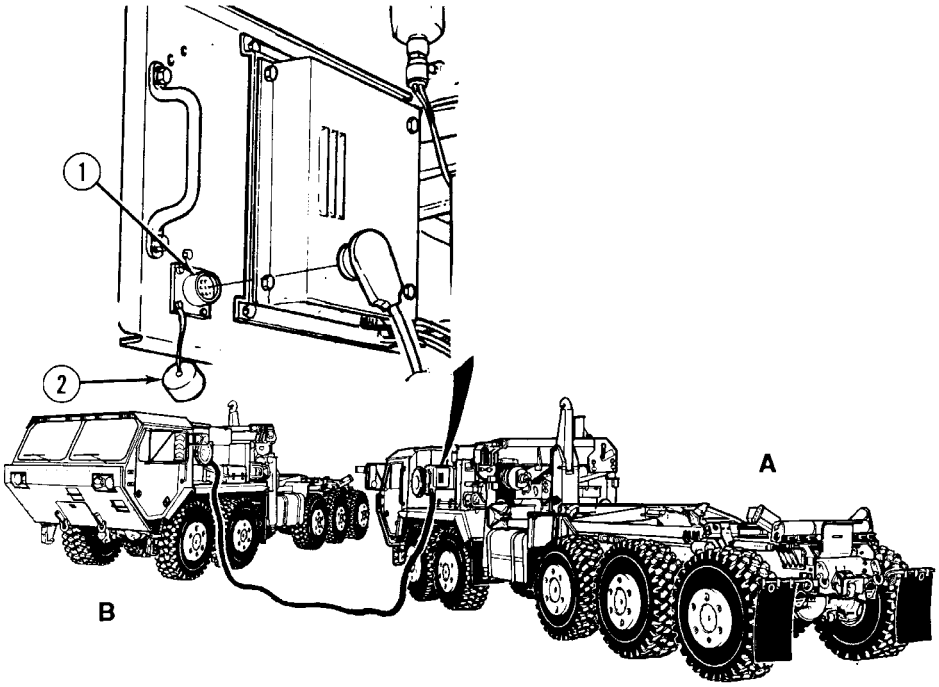
CAUTION

Ensure CTIS ON/OFF switch is in the OFF position and the LHS selector switch is in the OFF position on both trucks while performing the slave starting procedure. Failure to comply may result in damage to equipment.

NOTE

Slave starting is a two person task.

(1) Start truck (A) (Para 2-15).



(2) Move truck (A) into position beside truck (B) so slave receptacles (1) on both trucks are side by side.

(3) Park truck (A) (Para 2-22).

(4) Shut off truck (A) engine (Para 2-23).

(5) Remove the caps (2) from slave receptacles (1) on trucks (A and B).

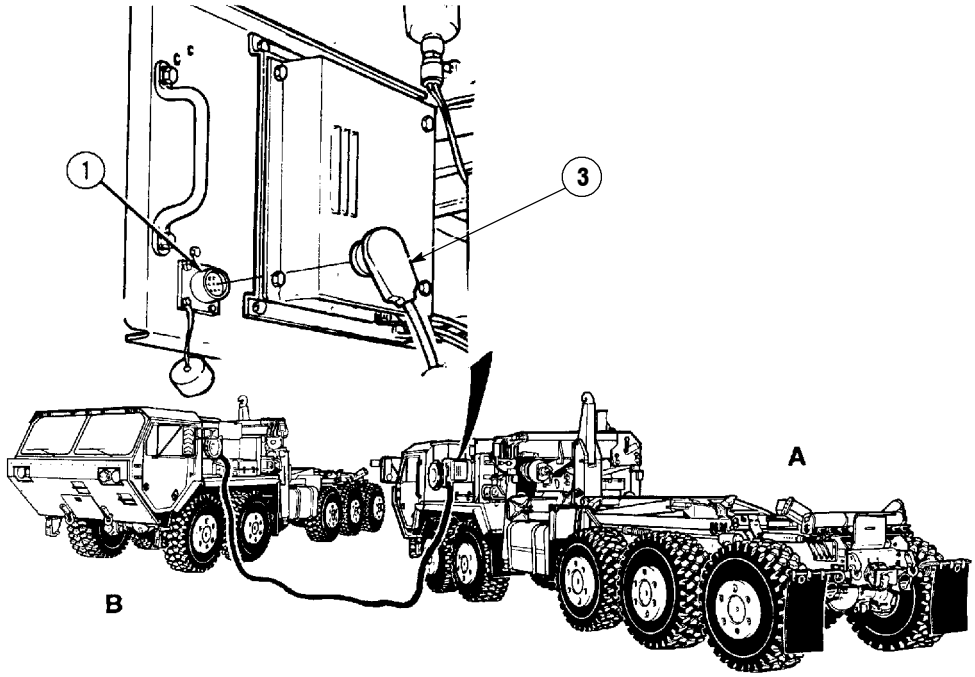
2-57. EMERGENCY PROCEDURES (CONT).

WARNING

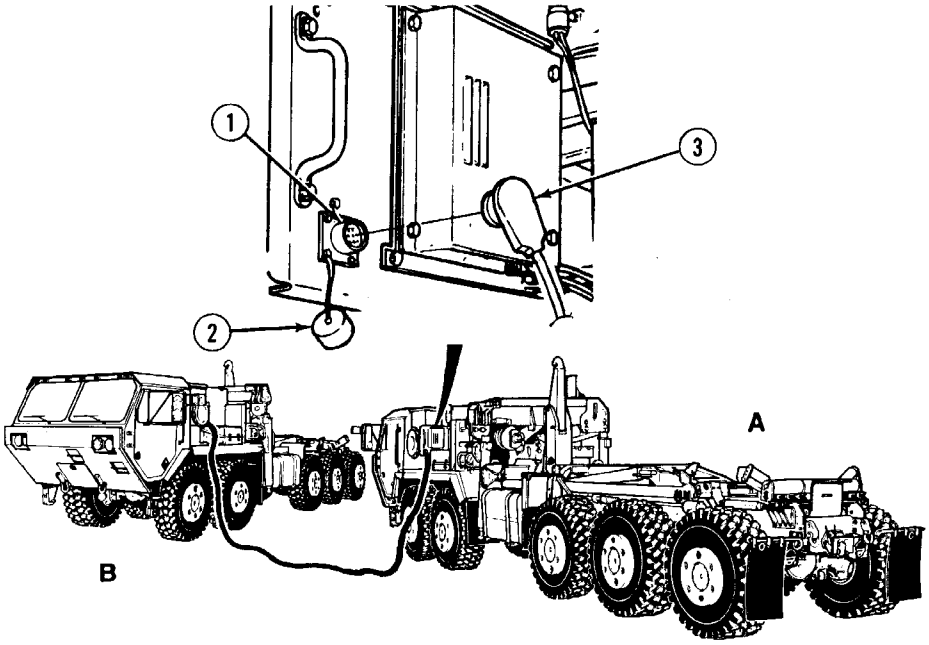
- Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry or tools contact positive electrical circuits a direct short may result. Damage to equipment, injury or death to personnel may occur.
- Battery acid (electrolyte) is extremely harmful. Always wear safety goggles and rubber gloves, and do not smoke when performing maintenance on batteries. Injury will result if acid contacts skin or eyes. Wear rubber apron to prevent clothing from being damaged.

CAUTION

Ensure connectors and receptacles are free of dirt, sand and debris.



(6) Plug the NATO slave cable connectors (3) into slave receptacles (1) on trucks (A and B).



(7) Start truck (A) (Para 2-15).

(8) Operate truck (A) at more than 1,000 rpm while attempting to start the truck (B) engine (Para 2-15).

(9) When engine is running smoothly, remove the NATO slave cable connectors (3) from slave receptacles (1) on trucks (A and B).

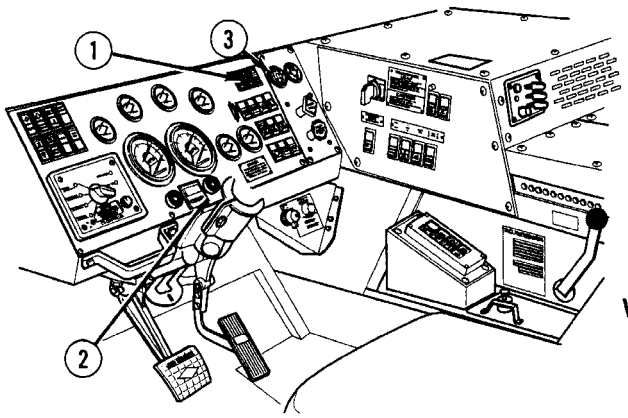
(10) Install the caps (2) on slave receptacles (1) of both trucks.

(11) Move and park truck (A) (Para 2-22).

(12) Shut off truck (A) (Para 2-23).

2-57. EMERGENCY PROCEDURES (CONT).

b. Losing Air System Pressure.

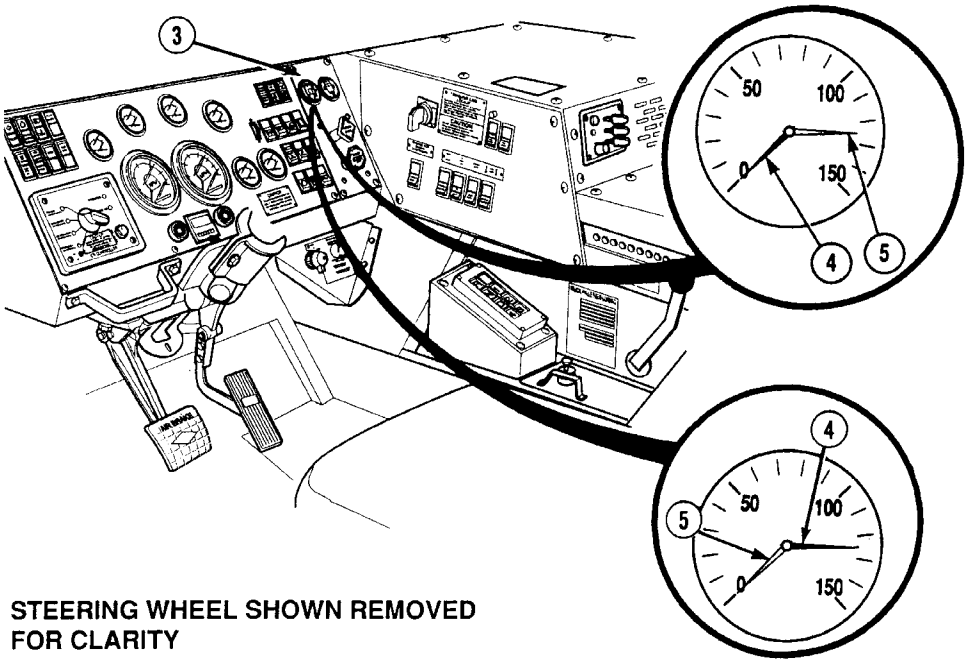


STEERING WHEEL SHOWN REMOVED FOR CLARITY

WARNING

- Operating the truck with an air pressure system loss is dangerous. The truck has reduced braking capability. Operating truck with loss of air pressure may cause serious injury or death to personnel.
- Steep terrain, slippery conditions, and other hazardous driving factors must be considered before attempting to drive in an emergency situation. Failure to comply may result in injury or death to personnel.

(1) If the AIR indicator (1) lights and/or warning buzzer (2) sounds while driving truck, check AIR PRESS gage (3).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

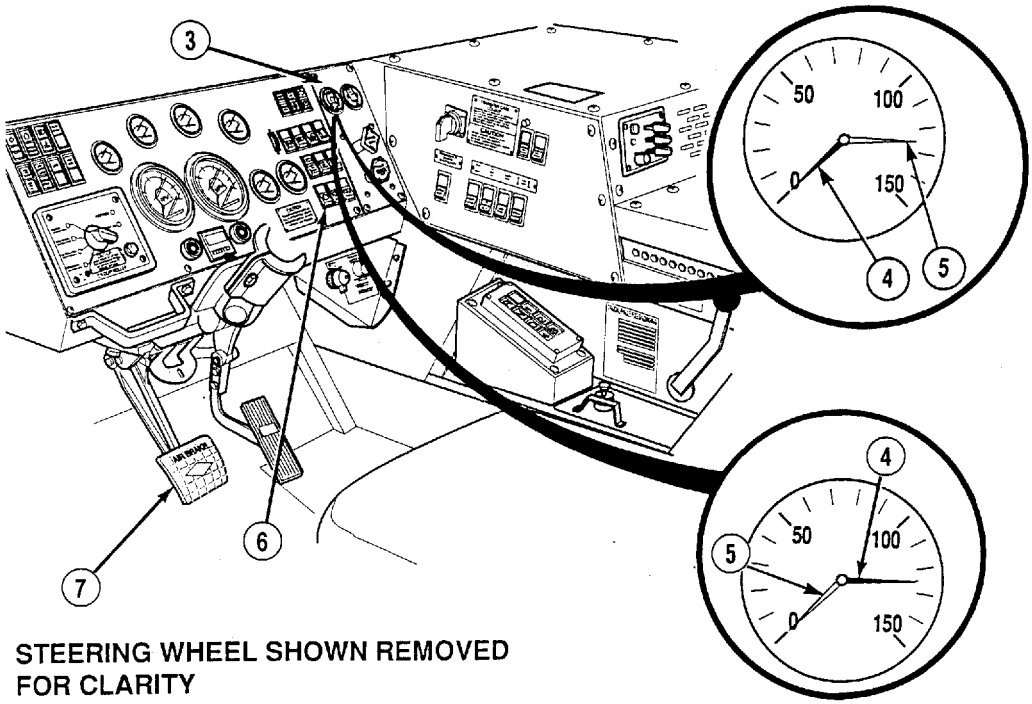
WARNING

- If air pressure gage reads approximately 45 psi (310 kPa) or less, spring brakes will be fully applied automatically causing possible loss of control. Serious injury or death may result.
- Maximum braking requires 90 psi (621 kPa) or more air pressure. If air pressure drops below 90 psi (621 kPa), braking ability will be reduced. If air pressure continues to drop air system is malfunctioning. Brake failure may result causing injury or death to personnel.

(2) If the green pointer (4) on AIR PRESS gage (3) is at 60 psi (414 kPa) or less and red pointer (5) shows normal air pressure of 100 to 120 psi (690 to 827 kPa), there is loss of air to the front brakes. In this situation, do the following:

(a) Continue cautious operation of truck. Brakes on Axles No. 3, 4, and 5 and trailer will operate. Drive truck slower and allow additional stopping distance.

2-57. EMERGENCY PROCEDURES (CONT).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

WARNING

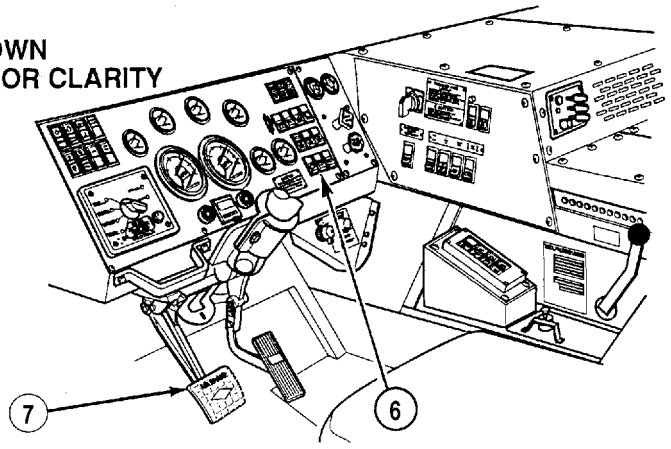
Apply engine brake only when truck tires have good traction. Use of engine brake on slick surfaces can cause truck to skid and cause injury or death to personnel.

(b) Down shift and use engine brake (6), if necessary, when slowing truck.

(c) Refer to troubleshooting as soon as possible.

(3) If the red pointer (5) on AIR PRESS gage (3) is at 60 psi (414 kPa) or less and green pointer (4) shows normal air pressure of 100 to 120 psi (690 to 827 kPa), there is loss of air for the rear brakes to operate normally. Rear brakes will operate by means of the spring brakes, controlled by the front brake system through the service brake pedal (7). In this situation, do the following:

STEERING
WHEEL SHOWN
REMOVED FOR CLARITY



WARNING

- If air pressure gage reads approximately 45 psi (310 kPa) or less, spring brakes will be fully applied automatically, causing possible loss of control. Serious injury or death may result.
- Maximum braking requires 90 psi (621 kPa) or more air pressure. If air pressure drops below 90 psi (621 kPa), braking ability will be reduced. If air pressure continues to drop, air system is malfunctioning. Brake failure may result causing injury or death to personnel.

(a) Continue cautious operation of truck. Brakes on Axles No. 1 and 2 and trailer will operate. Axles No. 3, 4 and 5 will have limited braking with the spring brakes.

(b) Leave additional distance between trucks and drive slower.

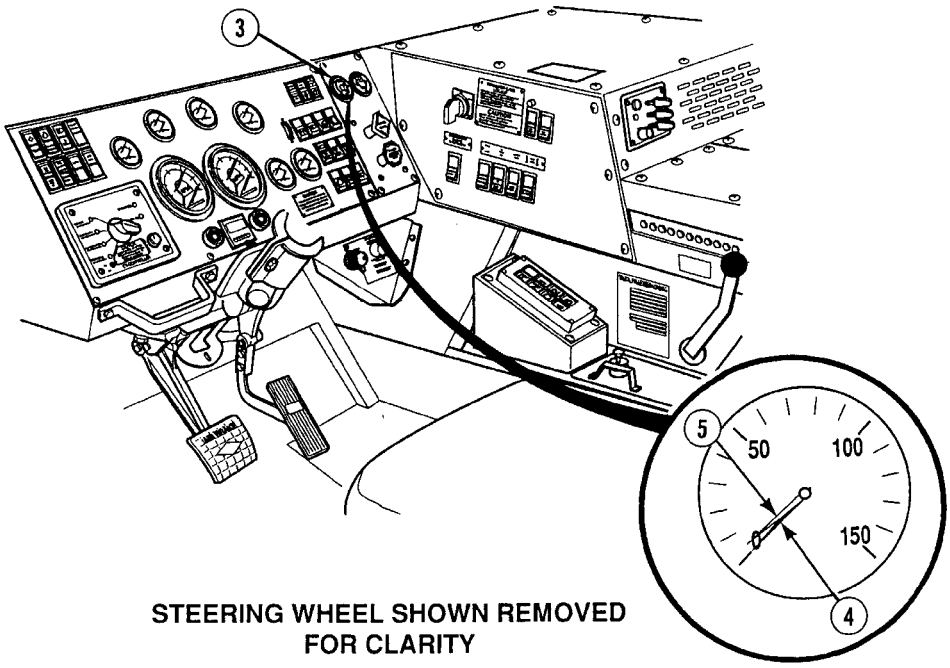
(c) Apply service brake pedal (7) earlier than usual when slowing truck.

WARNING

Apply engine brake only when truck tires have good traction. Use of engine brake on slick surfaces can cause truck to skid and cause injury or death to personnel.

(d) Downshift and use engine brake (6) as required, if necessary, when slowing truck.

2-57. EMERGENCY PROCEDURES (CONT).



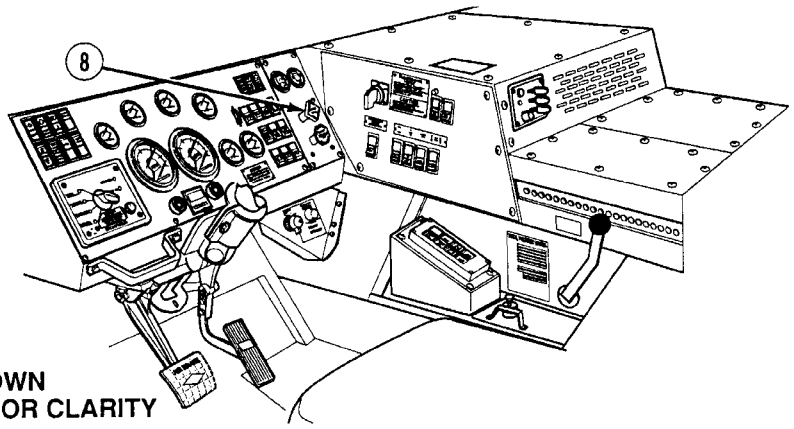
STEERING WHEEL SHOWN REMOVED FOR CLARITY

(e) Refer to troubleshooting as soon as possible (Para 3-3).

WARNING

- If air pressure gage reads approximately 45 psi (310 kPa) or less, spring brakes will be fully applied automatically causing possible loss of control. Serious injury or death may result.
- Maximum braking requires 90 psi (621 kPa) or more air pressure. If air pressure drops below 90 psi (621 kPa), braking ability will be reduced. If air pressure continues to drop air system is malfunctioning. Brake failure may result causing injury or death to personnel.

(4) If both red and green pointers (4) and (5) are dropping on AIR PRESS gage (3) and reading is 60 psi or less (414 kPa or less), do the following:



STEERING
WHEEL SHOWN
REMOVED FOR CLARITY

CAUTION

Truck cannot be driven again until malfunction is repaired and there is enough air supply for operation of service brakes. Failure to comply may result in damage to equipment.

(a) Look for suitable place to stop truck immediately. Spring brakes on truck and trailer will apply, bringing truck to a sudden stop.

(b) Downshift, as needed, to control truck speed until suitable place is found to stop.

(c) If possible, for a more controlled stop, pull out parking brake control knob (8) to apply spring brakes on Axles No. 3, 4 and 5 before pressure drops below 45 psi (310 kPa).

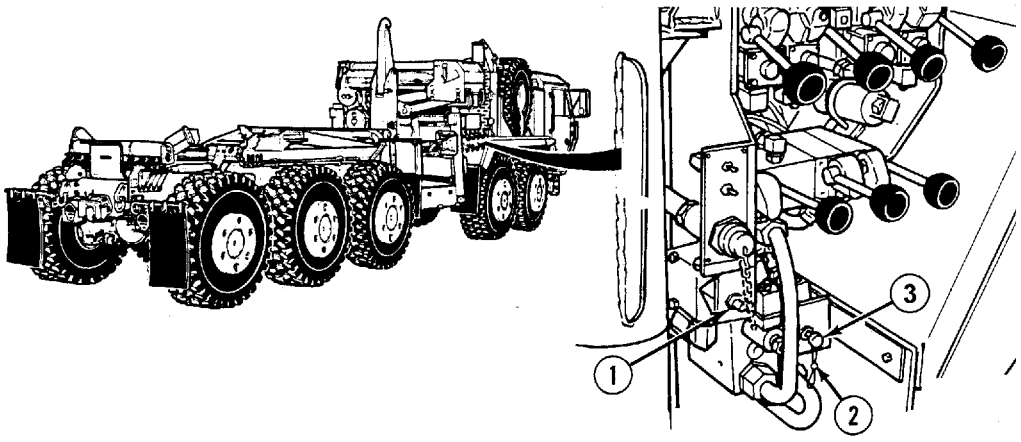
(d) Refer to Troubleshooting as soon as possible (Para 3-3).

WARNING

After caging brakes, truck brakes will be inoperative possibly causing injury or death to personnel.

(5) For emergency conditions, such as moving the truck a short distance, the spring brakes can be caged. See Tow Hookup Procedure (Para 2-56).

2-57. EMERGENCY PROCEDURES (CONT).



c. Crane Emergency Procedures.

(1) Crane emergency operation with electrical failure:

CAUTION

Do not try to operate any electrical equipment on truck or crane if electrical failure has occurred. Damage to equipment could result.

NOTE

- This procedure will provide emergency hydraulic power to lower crane and load when electrical power has failed.
- Failure of hydraulic system will stop operation of any crane, winch or hydraulic motor on truck. All cranes and winches are equipped with automatic locking mechanisms to hold cranes and winches in position they were in before hydraulics failed.

(a) Twist and pull out MHC Main Hydraulic Override Valve (1). Remove safety wire (2) and push in and hold MHC Hydraulic System Manual Override button (3).

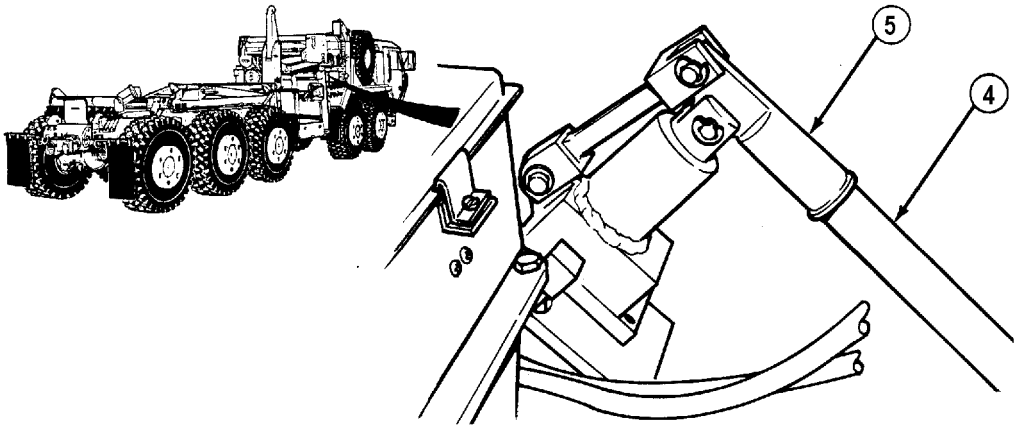
(b) Stow crane (Para 2-30).

(c) Notify Unit Maintenance.

(2) Crane Emergency Operation with Hydraulic Failure.

NOTE

This is a two person task. One person operates hand pump while other person operates manual controls.



(a) Remove pump handle (4) from stowage box.

(b) Install pump handle (4) on hand pump (5).

NOTE

- Continue pumping until crane is in desired position.
- This procedure can only be done with manual controls.
- Crane functions will operate very slowly.

(c) Operate the pump handle (4) with steady up and down pressure while assistant operates crane controls.

(d) Remove pump handle (4) and put in stowage box.

(e) Stow crane (Para 2-30).

(f) Notify Unit Maintenance.

2-57. EMERGENCY PROCEDURES (CONT).

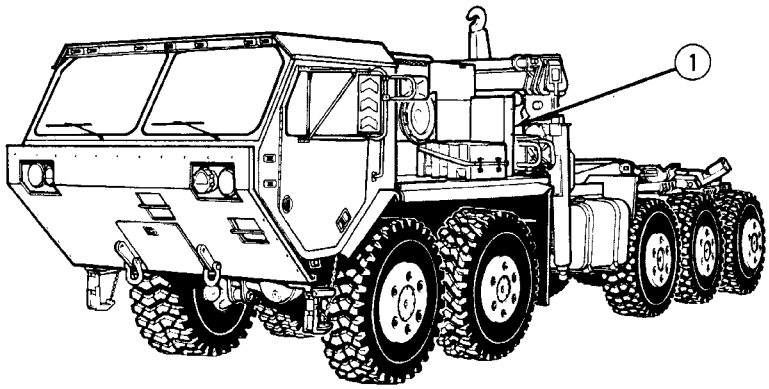
d. LHS Auxiliary Slave Hydraulics Operation (Auxiliary [Slave] Hydraulics).

CAUTION

If LHS system on disabled truck is not in fully stowed (transport position), remove hydraulic tank cap from operable truck prior to starting the task to allow excess hydraulic oil to drain. Failure to comply may result in damage to hydraulic tank or hydraulic system.

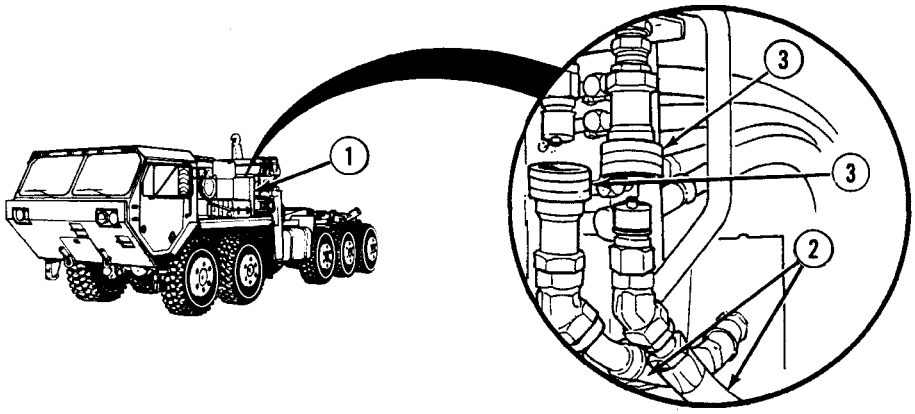
NOTE

- This procedure can only be used if there are no leaks or breaks in the hydraulic system.
- This procedure is used to remove the load from a PLS truck with a failed hydraulic pump or other failure which prevents operation of the hydraulic system.
- Each PLS truck is equipped with one hydraulic slave hose. Two hoses (one from each truck) are required to perform slave hydraulics. Remove hoses from stowage boxes of trucks.



(1) Move trucks into position so LHS control box (1) on both trucks are side by side.

(2) Shut off engines (Para 2-23) and park both trucks (Para 2-22).



WARNING

Hydraulic fluid is under great pressure. Engines on both trucks must be shut off while disconnecting hydraulic lines, Steps (3) through (7). Failure to do so could cause serious injury or death to personnel.

CAUTION

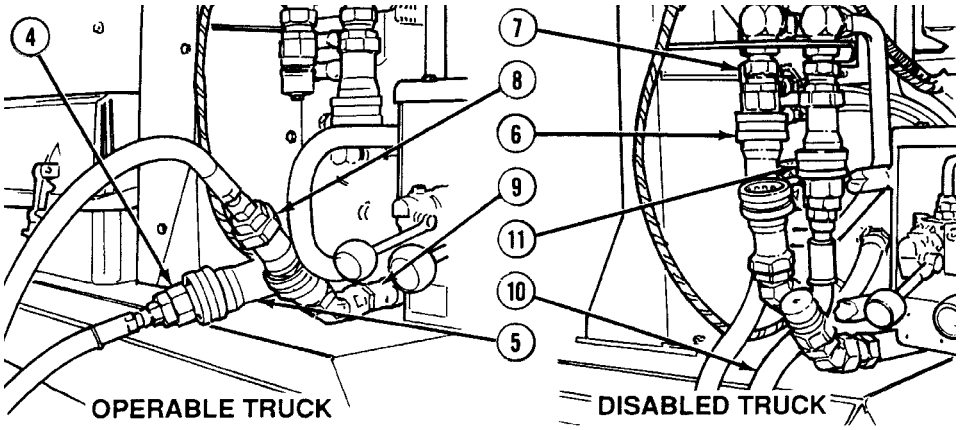
To prevent hydraulic contamination, keep hydraulic quick disconnects clean or damage to hydraulic system may result.

NOTE

Quick disconnects are located on the back of the LHS box.

(3) Disconnect hydraulic lines (2) on both trucks at quick disconnects (3) located on the back of the LHS control box (1).

2-57. EMERGENCY PROCEDURES (CONT).

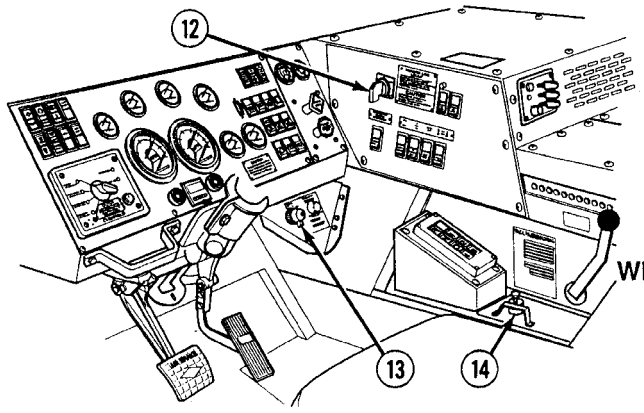


(4) Using first slave hose, connect male end of slave hose (4) to female end of supply hose (5) on operable truck.

(5) Connect female end of first slave hose (6) to male end of supply quick disconnect (7) located on back of LHS control box on disabled truck.

(6) Using second slave hose, connect female end of slave hose (8) to male end of return hose (9) on operable truck.

(7) Connect male end of second slave hose (10) to female return quick disconnect (11) located on back of LHS control box on disabled truck.



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(8) Start engine on operable truck and turn hydraulic selector switch (12) to AUTO position.

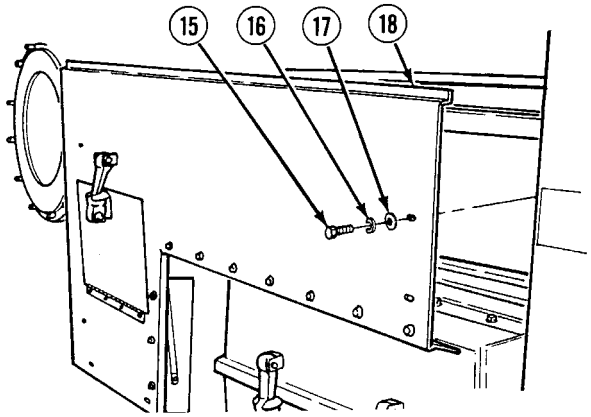
(9) If disabled truck has a failure in the hydraulic system, but not the electrical system, go to Step (10). If both systems have failed, go to Step (11).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(10) On disabled truck turn ignition switch (13) to ON and turn hydraulic selector switch (12) to AUTO. Operate joystick (14) to return LHS to the stowed position. Go to Step (14).

2-57. EMERGENCY PROCEDURES (CONT).

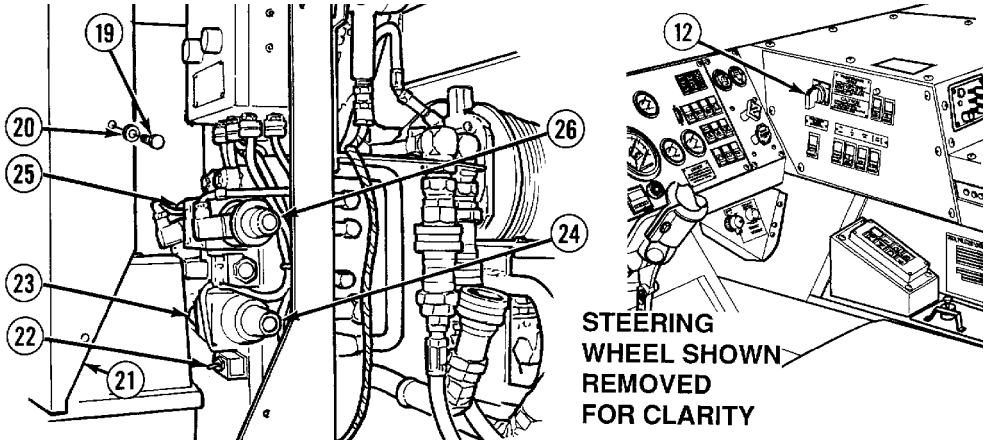


(11) Remove 7/16 in. combination wrench and 1/2 in. combination wrench from stowage box.

CAUTION

When removing side access panel, be careful not to damage wiring harness or other equipment, or damage to equipment may result.

(12) Remove eight screws (15), lockwashers (16) and washer (17) from side access panel (18) and remove side access panel.



NOTE

Only remove center screw on engine side of LHS control box cover.

(13) On disabled truck, remove four screws (19), lockwashers (20) and LHS control box cover (21).

NOTE

Button may be stiff and hard to push in.

(14) Press and hold free flow valve override button (22). Press one or more of the following buttons to return LHS to the stowed position: hook arm UP (23), hook arm DOWN (24), main frame UP (25), main frame DOWN (26).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(15) Turn hydraulic selector switch (12) to OFF position.

(16) Shut down engine on both trucks.

2-57. EMERGENCY PROCEDURES (CONT).

WARNING

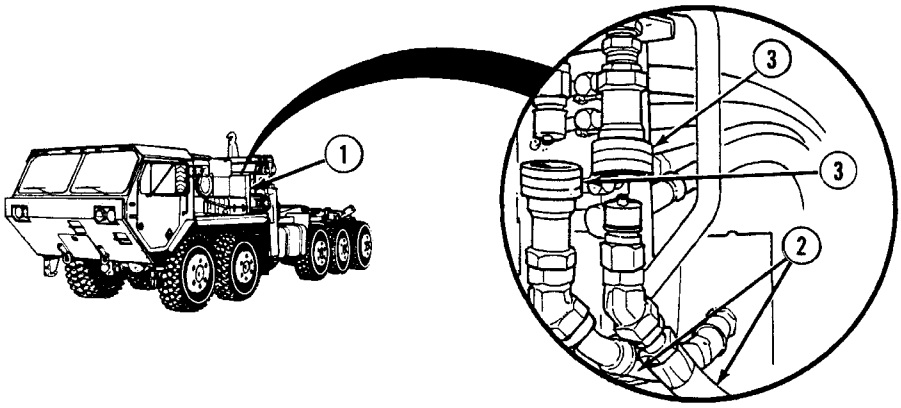
Hydraulic fluid is under great pressure. Engines on both trucks must be shut off while disconnecting hydraulic lines, Steps (17) through (21). Failure to do so could cause serious injury or death to personnel.

CAUTION

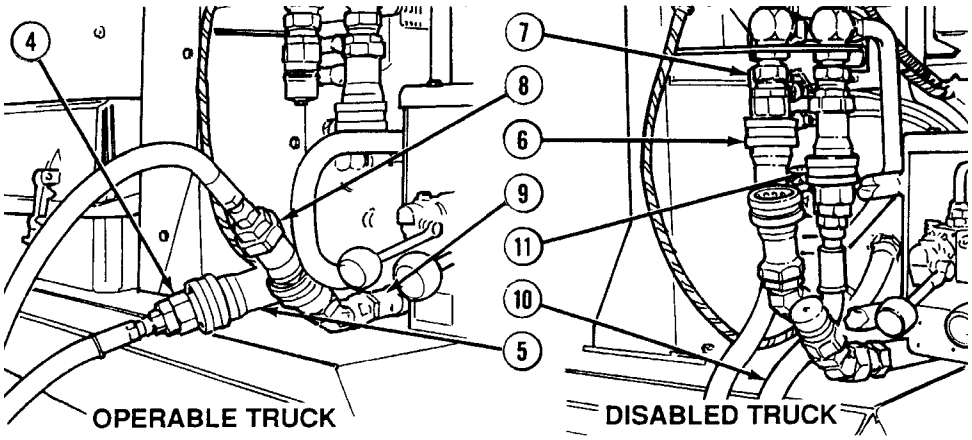
To prevent hydraulic contamination, keep hydraulic quick disconnects clean or damage to hydraulic system may result.

NOTE

Quick disconnects are located on the back of the LHS box.



(17) Connect hydraulic lines (2) on both trucks at quick disconnects (3) located on the back of the LHS control box (1).



(18) Disconnect first slave hose, male end of slave hose (4) from female end of supply hose (5) on operable truck.

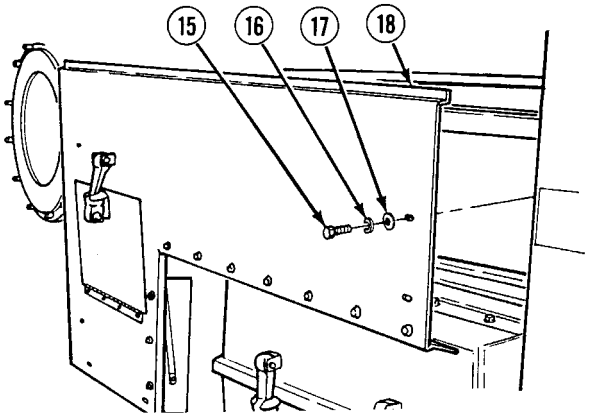
(19) Disconnect female end of first slave hose (6) from male end of supply quick disconnect (7) located on back of LHS control box on disabled truck.

(20) Disconnect second slave hose, female end of slave hose (8) from male end of return hose (9) on operable truck.

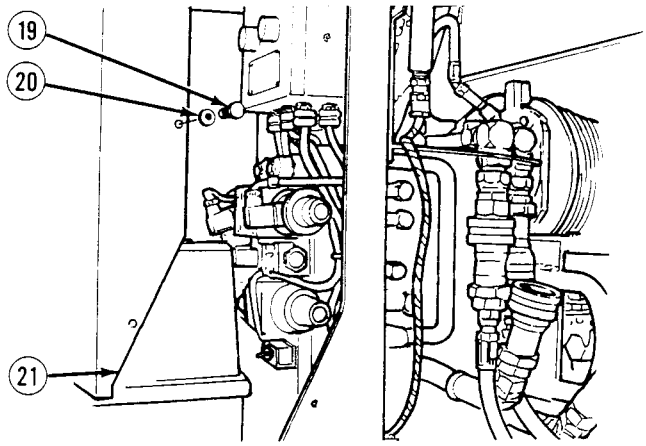
(21) Disconnect male end of second slave hose (10) from female return quick disconnect (11) located on back of LHS control box on disabled truck.

(22) When operations are completed, check hydraulic fluid levels in both trucks. Fill if necessary.

2-57. EMERGENCY PROCEDURES (CONT).



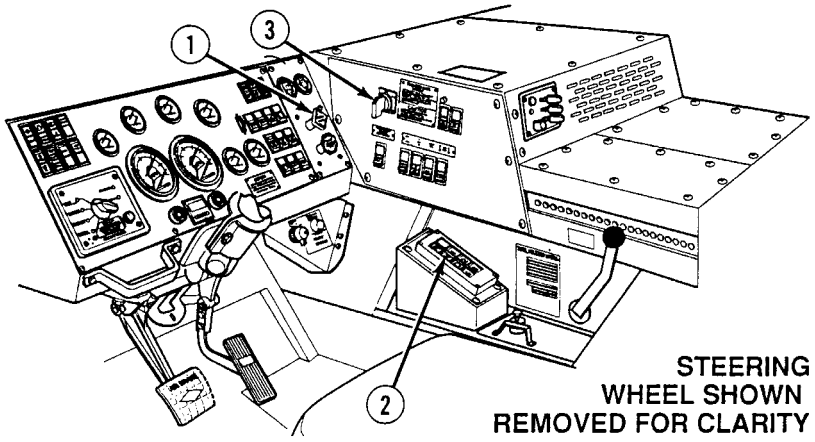
(23) Install side access panel (18) with eight screws (15), lockwashers (16) and washer (17).



(24) On disabled truck, install LHS control box cover (21) with four lockwashers (20) and screws (19).

(25) Place combination wrenches in stowage box.

e. Manual Hydraulic Operation (LHS).



WARNING

Ensure operator, objects and other personnel are clear of LHS and truck during LHS operation or serious injury or death could result to personnel.

NOTE

In the event of electrical failure during loading or unloading, manual operation of main manifold directional control valves will allow LHS operation until electrical failure can be repaired.

(1) Apply truck parking brakes (1) and place transmission range selector (2) in Neutral (N).

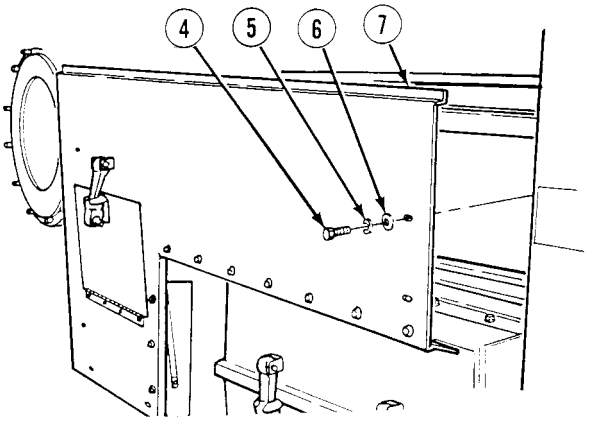
CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(2) Set hydraulic selector switch (3) to MAN H.A., MAN M.F. or AUTO position.

(3) Remove 7/16 in. and 1/2 in. combination wrenches from stowage box.

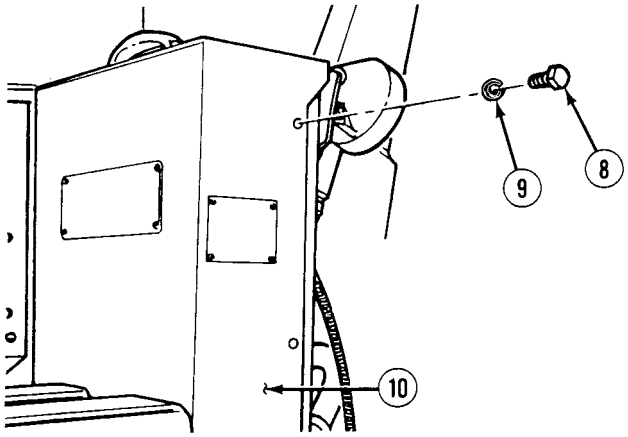
2-57. EMERGENCY PROCEDURES (CONT).



CAUTION

When removing side access panel, be careful not to damage wiring harness or other equipment, or damage to equipment may result.

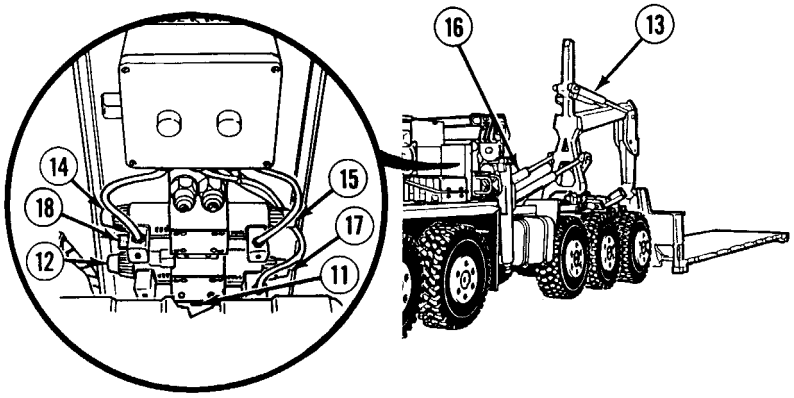
(4) Remove eight screws (4), lockwashers (5) and washer (6) from side access panel (7) and remove side access panel (7).



NOTE

Only remove center screw on engine side of LHS control box cover.

(5) Remove four screws (8), lockwasher (9) and LHS control cover (10) to gain access to main manifold valve on left side of truck.



CAUTION

Engine speed must be at idle before hook arm cylinders are fully extended. Damage to equipment may result.

(6) Unload flatrack from truck as follows:

(a) Press and hold free flow valve override button (11) and manual hook arm UP button (12) and extend hook arm cylinders (13) until hook arm cylinders are fully extended.

(b) Press and hold free flow valve override button (11) and manual main frame UP button (14) until unloaded.

CAUTION

To avoid equipment damage ensure that main frame cylinders do not complete full retraction while operating at engine speeds above idle.

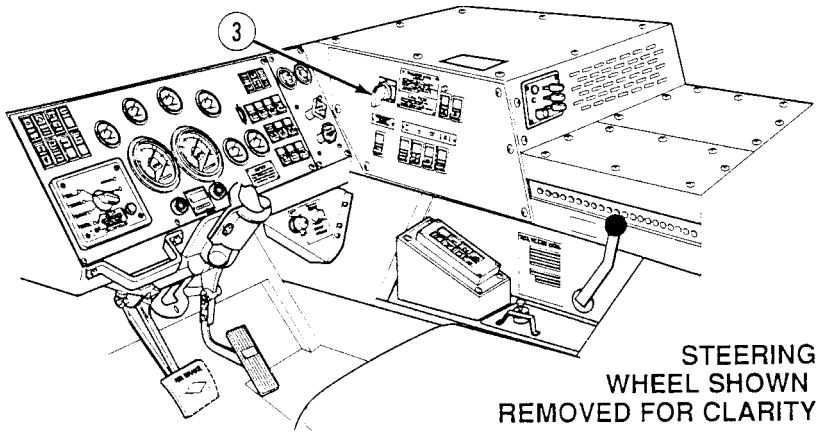
(7) Load flatrack onto truck as follows:

(a) Press and hold manual free flow valve override button (11). Press manual main frame DOWN button (15) until main frame cylinders (16) are fully retracted.

(b) Press and hold manual override button (11) and depress manual hook arm DOWN button (17) until flatrack is in transit position.

(c) Press transit valve button (18) before moving truck.

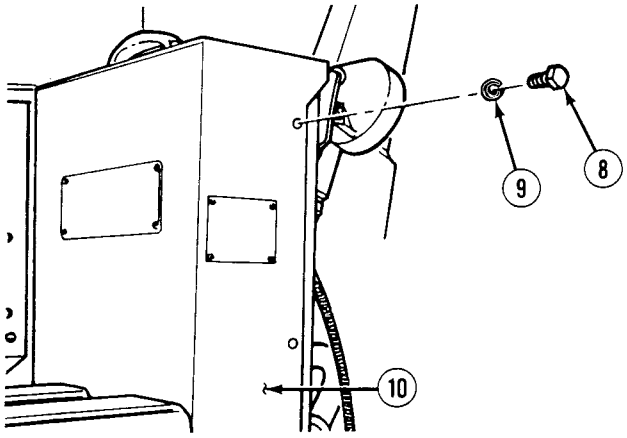
2-57. EMERGENCY PROCEDURES (CONT).



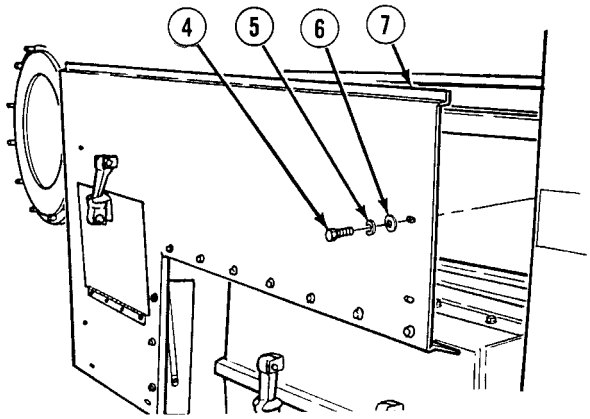
CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(d) Place hydraulic selector switch (3) to MAN TRANS.



(8) Install LHS control cover (10) with four screws (8), lockwashers (9).

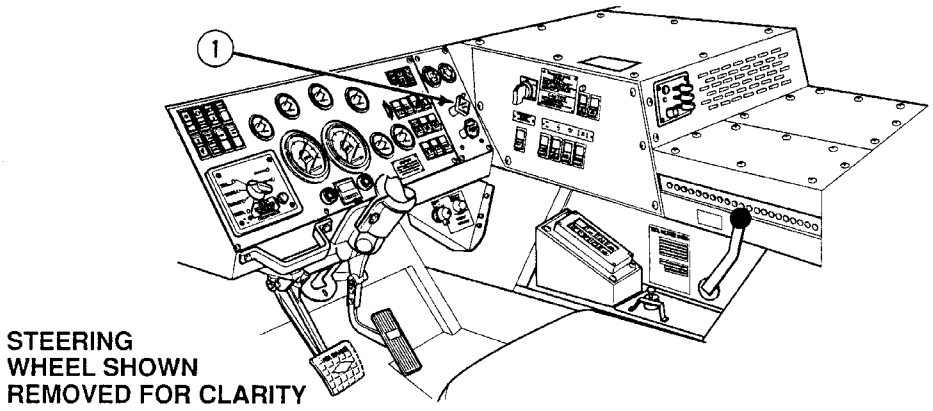


(9) Install side access panel (7) with eight screws (4), lockwashers (5) and washer (6).

(10) Place combination wrenches in stowage box.

2-57. EMERGENCY PROCEDURES (CONT).

f. Lowering the Flatrack During Complete Hydraulic Failure (Hydraulic Release).



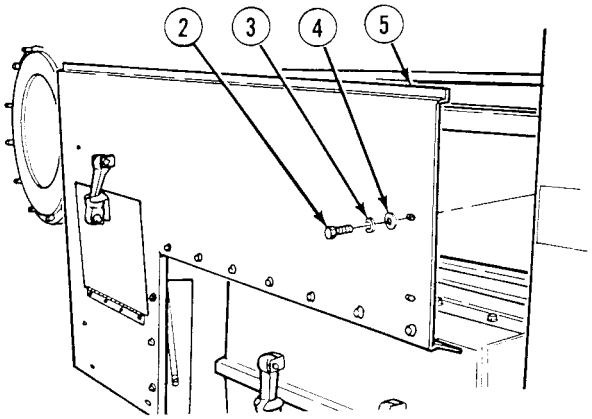
WARNING

Ensure operator, objects and other personnel are clear of LHS and truck during LHS operation or serious injury or death could result to personnel.

NOTE

In event of hydraulic failure during loading or unloading, load control valves fitted into system will stop LHS operation. To recover from this, solenoid valves are operated which, when open, bypass cylinder load control valves causing LHS to move under its own weight to load or unload position.

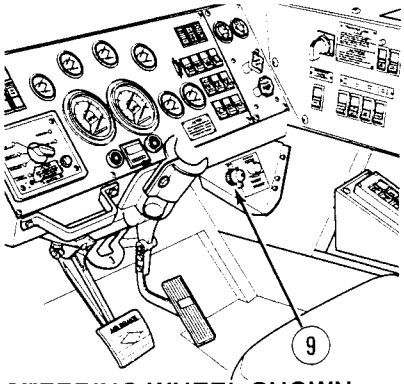
(1) Apply truck parking brakes (1).



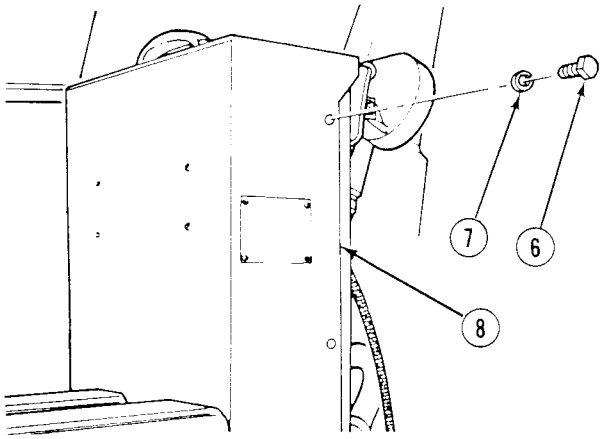
CAUTION

When removing side access panel, be careful not to damage wiring harness or other equipment, or damage to equipment may result.

(2) Remove eight screws (2), lockwashers (3) and washers (4) from side access panel (5) and remove side access panel.



STEERING WHEEL SHOWN REMOVED FOR CLARITY



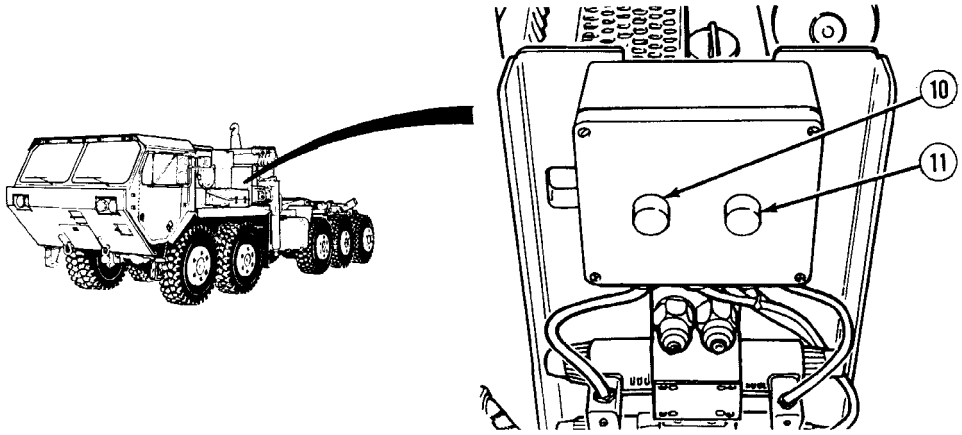
NOTE

Only remove center screw on engine side of LHS control box cover.

(3) Remove four screws (6), lockwashers (7) and LHS control box cover (8).

(4) Turn ignition switch (9) to ON position to allow power to electrical system, but do not start engine.

2-57. EMERGENCY PROCEDURES (CONT).



NOTE

Operate electrical lowering override buttons by pressing and releasing buttons, which controls movement of LHS.

(5) Locate electrical hook arm override button (10) and main frame override button (11).

CAUTION

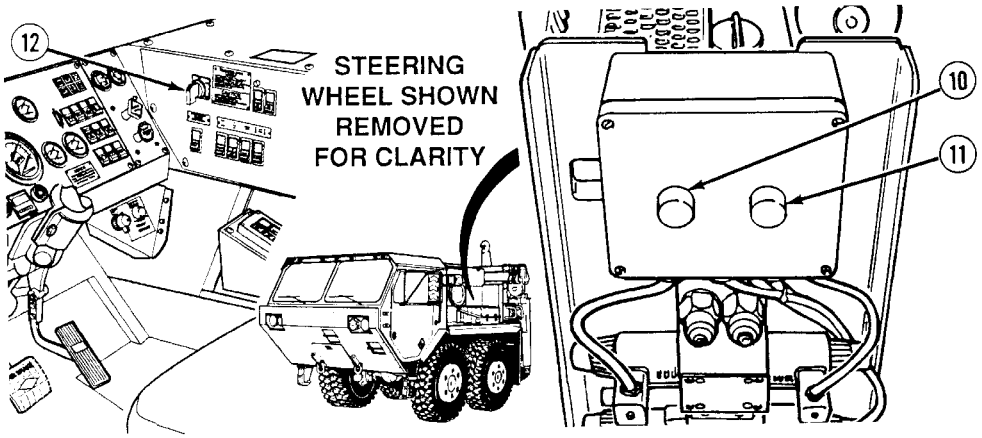
Before depressing electrical lowering override buttons, direction of LHS payload movement (load or unload) must be known.

(6) If flatrack and load center of gravity is over truck, load will return to transport position. If flatrack and load center of gravity is over rear of truck, flatrack will lower to the ground.

NOTE

Under certain circumstances, an assist truck may be needed to aid in pulling payload back, if dug in.

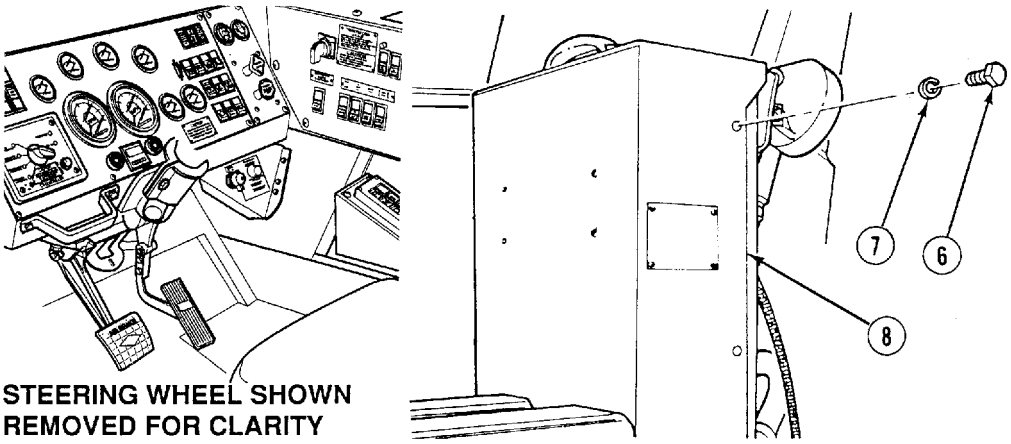
(7) Press main frame override button (11) for unloading. Ground conditions will determine if flatrack rolls/slides across ground or digs in. In event of digging in, operator should stop electrical override button operation. If this condition exists, the load will have to be unloaded manually.



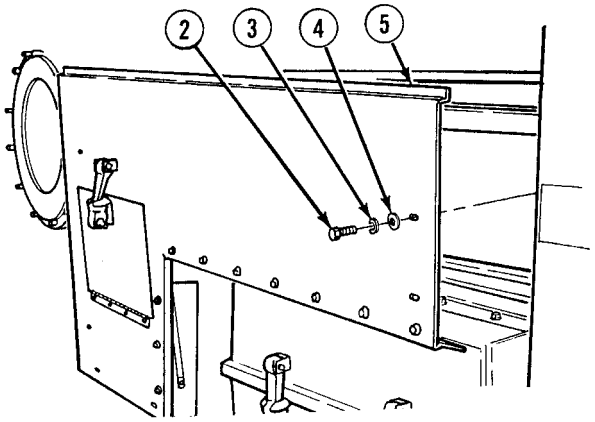
(8) As flatrack unloads, operator continues using main frame electrical override button (11). Weight of flatrack and payload will continue until load is on ground. Operator will have to exercise caution during this procedure. If flatrack is not fully on ground, the hook arm override button (10) may be pressed until flatrack is on ground.

(9) In event of load returning to transport position on truck during main frame override button (11) operation, the operation continues using the electrical and LHS movement stops. The operator then presses the hook arm override button (10) until the hook-arm cylinders are in transport position. Operator then moves hydraulic selector switch (12) to MAN TRANS position, which allows truck to be driven. Flatrack and payload must be manually off-loaded. Refer to Para 2-57g.

2-57. EMERGENCY PROCEDURES (CONT).

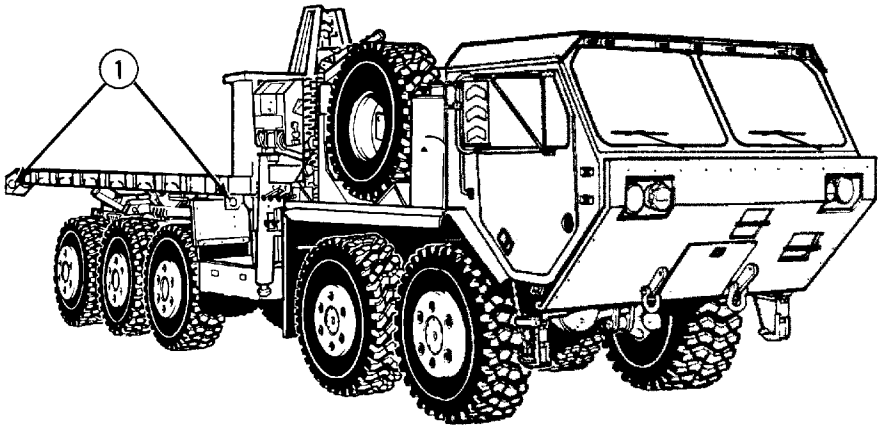


(10) Install four screws (6), lockwashers (7) and LHS control box (8).



(11) Install side access panel (5) with eight screws (2), lockwashers (3) and washers (4).

g. Manual Removal of Flatrack.



WARNING

M1077 flatrack weights 3,200 lbs. (1,453 kg). M1077A1 flatrack weights 3,900 lbs. (1,771 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel.

CAUTION

It is not possible to load a flatrack onto a truck in this manner or equipment damage may result.

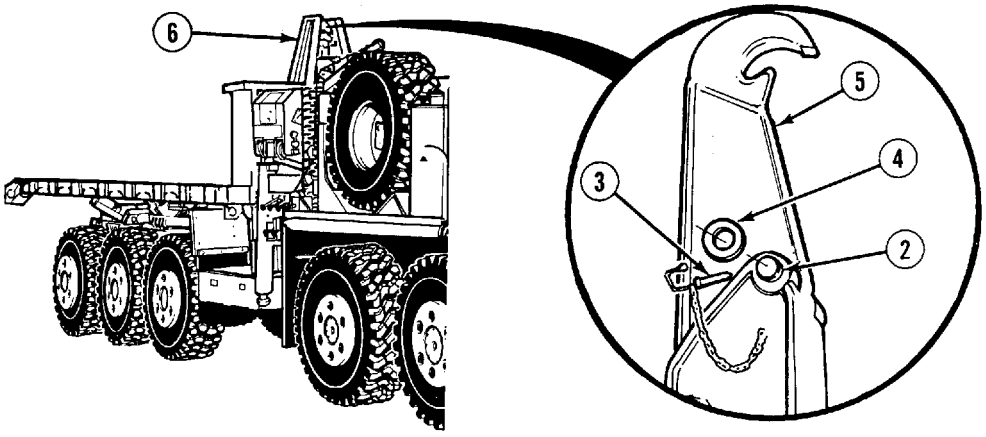
NOTE

If complete system failure or hydraulic failure as described in Para 2-57 does not allow normal operation, remove payload or flatrack and payload from truck.

(1) Remove flatrack with lifting device as follows:

(a) Secure lifting slings to flatrack lifting eyes (1).

2-57. EMERGENCY PROCEDURES (CONT).



WARNING

Lifting-hook weighs 200 lbs. (91 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel.

(b) Apply tension to sling and lift flatrack slightly to relieve pressure on locking pin (2). Remove pin (3), washer (4) and locking pin (2) from lift-hook (5).

(c) Using a lifting device, lift flatrack slightly. (Flatrack will not rise due to flatrack hook bar being engaged under lift-hook (5) and load locks being engaged.)

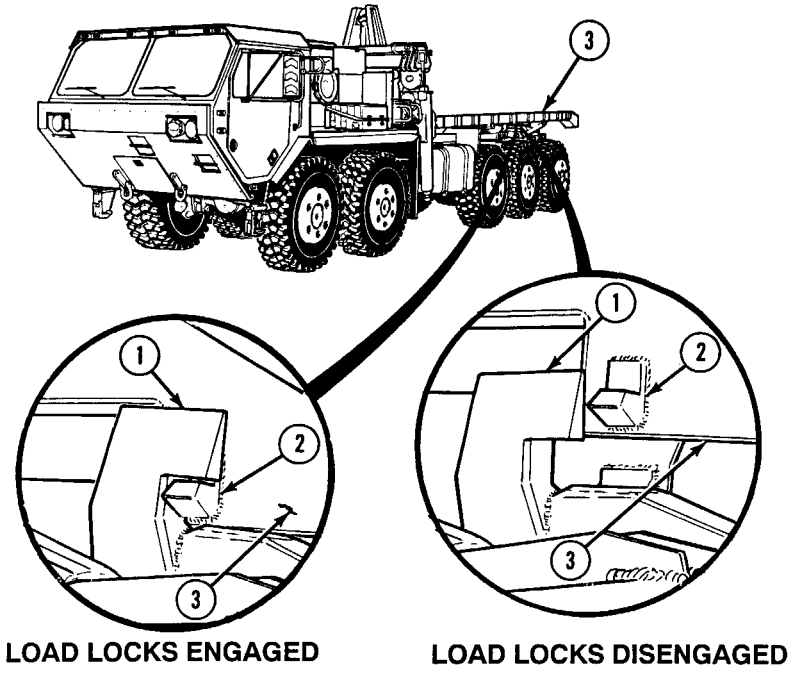
WARNING

Personnel must stand clear of flatrack and lift-hook areas during manual unload procedures or injury to personnel may result.

(d) Using another truck or an anchor point, pull flatrack rearwards from lift-hook (5) until lift-hook clears and falls free of flatrack hook bar (6).

(2) Move lift-hook back into position and install locking pin (2), washer (4) and pin (3) in lift-hook (5).

h. Manually Re-Engage Flatrack Hookbar to LHS Hook.



LOAD LOCKS ENGAGED LOAD LOCKS DISENGAGED

CAUTION

- Attempting to unload flatrack with LHS rear load locks engaged will result in damage to flatrack and possible damage to LHS.
- Flatrack must be empty before attempting to re-engage hook and hook bar or damage to equipment may result.

NOTE

Flatrack is considered engaged in LHS rear load locks when any part of flatrack lock is under LHS lock.

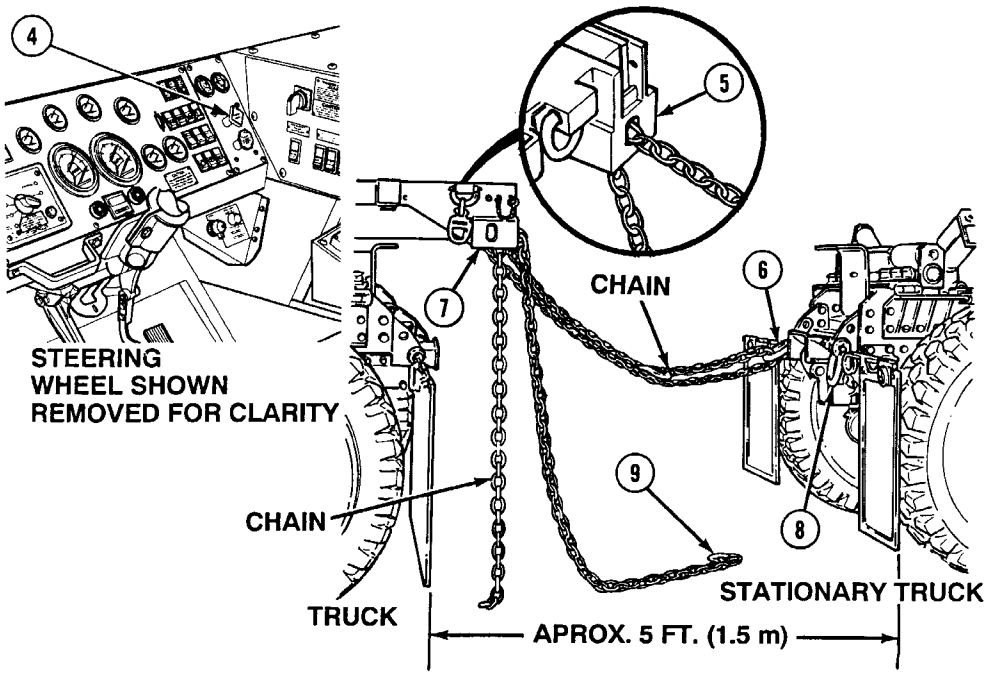
(1) Re-engage flatrack hookbar as follows:

(a) Visually inspect LHS rear load lock (1) and flatrack load lock (2) to determine if flatrack (3) is engaged or disengaged.

(b) If flatrack load lock (2) is not engaged in LHS rear load locks (1), go to Step (m).

(c) If flatrack loadlock (2) is engaged in LHS rear load locks (1), go to Step (d).

2-57. EMERGENCY PROCEDURES (CONT).



(d) With the aid of an assistant, position truck so rear of truck is about five ft. (1.5 m) from another stationary truck and apply parking brakes (4) on both trucks.

CAUTION

Use of a chain at each flatrack corner casting is required or damage to equipment can result.

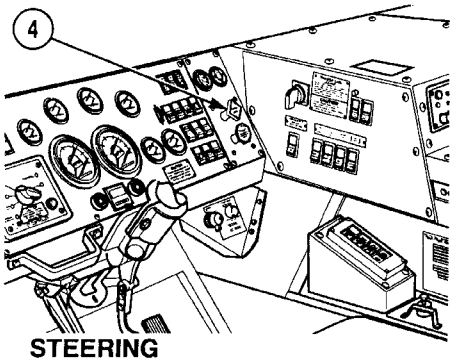
NOTE

Use of the 14 ft. (4.2 m) chain from the truck BII and another chain of equal length and strength is required.

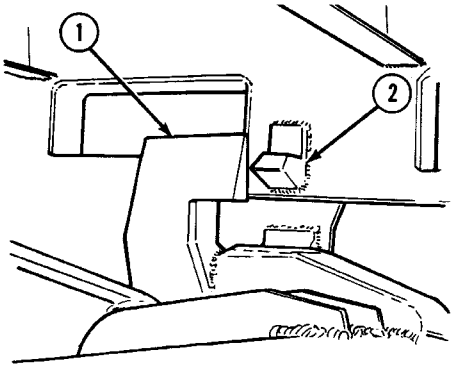
(e) Route one chain through the right ISO corner casting (5) of truck and through the left tow eye shackle (6) on the stationary truck.

(f) Route the second chain through the left flatrack ISO corner casting (7) of truck and through the right tow eye shackle (8) on the stationary truck.

(g) Adjust chains to equal lengths and hook chain hooks (9) on chains.



STEERING
WHEEL SHOWN
REMOVED FOR CLARITY



WARNING

Keep all personnel away from rear of flatrack and chains while attempting to disengage the load locks. Chains will be under great tension and could unhook or fail, resulting in serious injury or death.

CAUTION

Truck should be driven forward slowly or damage to equipment can result.

NOTE

Ensure that both chains tighten evenly when moving truck forward.

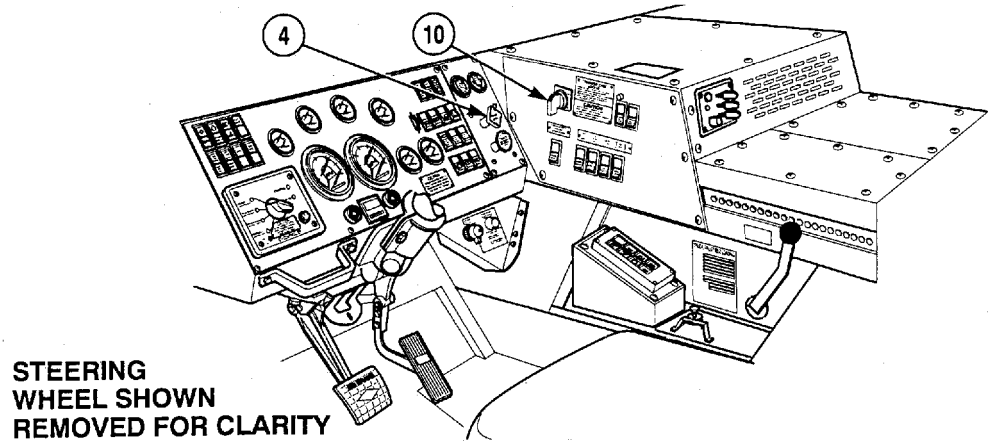
(h) With the aid of an assistant, release parking brake (4) and move truck forward to take slack out of chains.

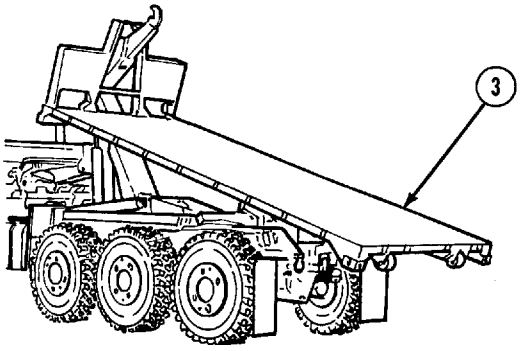
(i) Increase engine speed until flatrack load lock (2) disengages from LHS rear load locks (1).

(j) Move truck rearward to relieve tension on chains and apply parking brake (4).

(k) Remove and stow both chains.

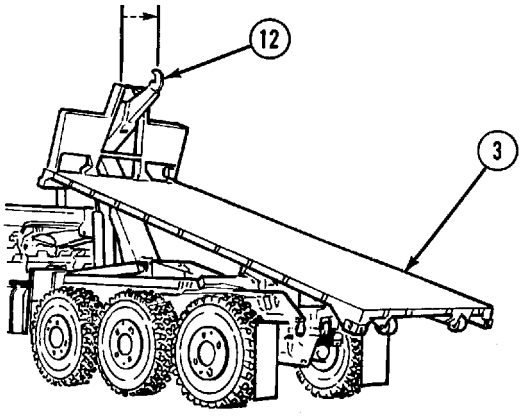
2-57. EMERGENCY PROCEDURES (CONT).



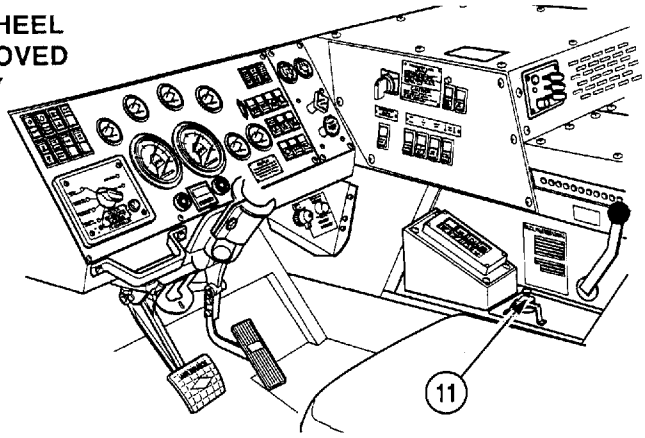


(l) Release parking brake (4) and drive truck forward to allow room for removal of flatrack (3).

(m) Apply parking brake (4) and turn hydraulic selector switch (10) to AUTO.



STEERING WHEEL SHOWN REMOVED FOR CLARITY



WARNING

Personnel must stand clear of flatrack area during unloading procedure or injury to personnel may result.

NOTE

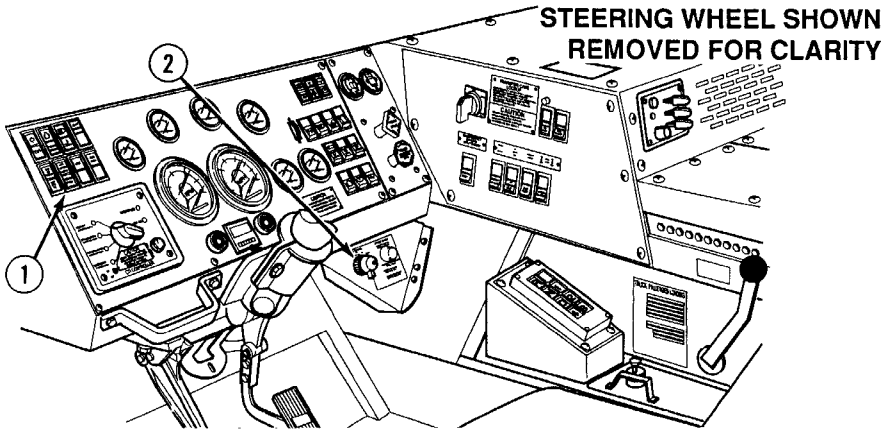
Lift hook will raise with flatrack hookbar outside of lift hook. As the hookarm raises, the flatrack will move rearward and engage the lift hook.

(n) Move the joystick (11) to UNLOAD until the flatrack (3) engages the lift hook (12).

(o) Refer to standard loading and unloading procedures, (Para 2-29).

2-57. EMERGENCY PROCEDURES (CONT).

i. Emergency Steering System.



WARNING

If EMERGENCY STEER light illuminates when driving, immediately pull truck over to side of road and stop, serious injury or death could result.

NOTE

If EMERGENCY STEER light illuminates, there is a problem in the primary hydraulic steering system, and the emergency steering back up hydraulic system has been activated. As truck speed gets below approximately 15 mph, increased steering effort will be required to steer truck. Notify Unit Maintenance.

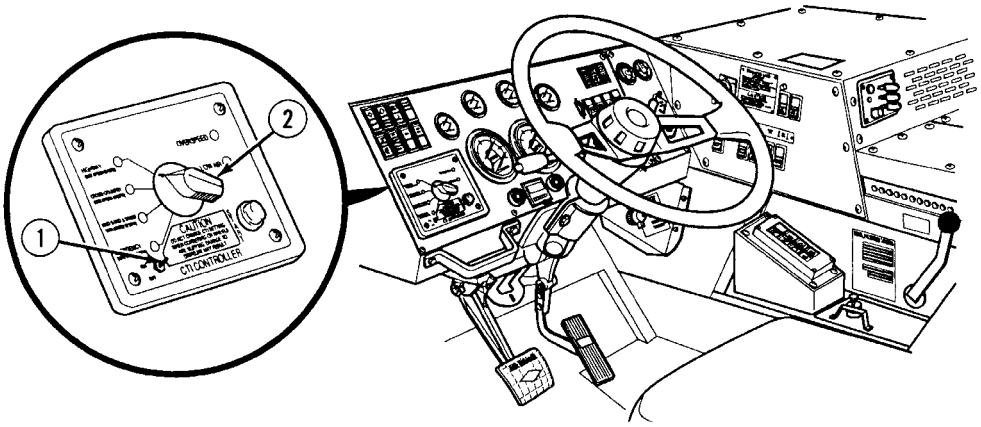
(1) If EMERG STEER indicator light (1) illuminates:

(a) Bring truck to safe stop and park truck (Para 2-22).

(b) Turn ignition switch (2) to OFF position.

(2) Notify Unit Maintenance.

j. Manual Inflate/Deflate Tires with CTIS Failure.



(1) Turn CTIS ON/OFF switch (1) to OFF position.

CAUTION

Tire pressure must be manually deflated or inflated to match CTIS rotary selection switch setting during CTIS failure. Failure to comply may result in damage to driveline components.

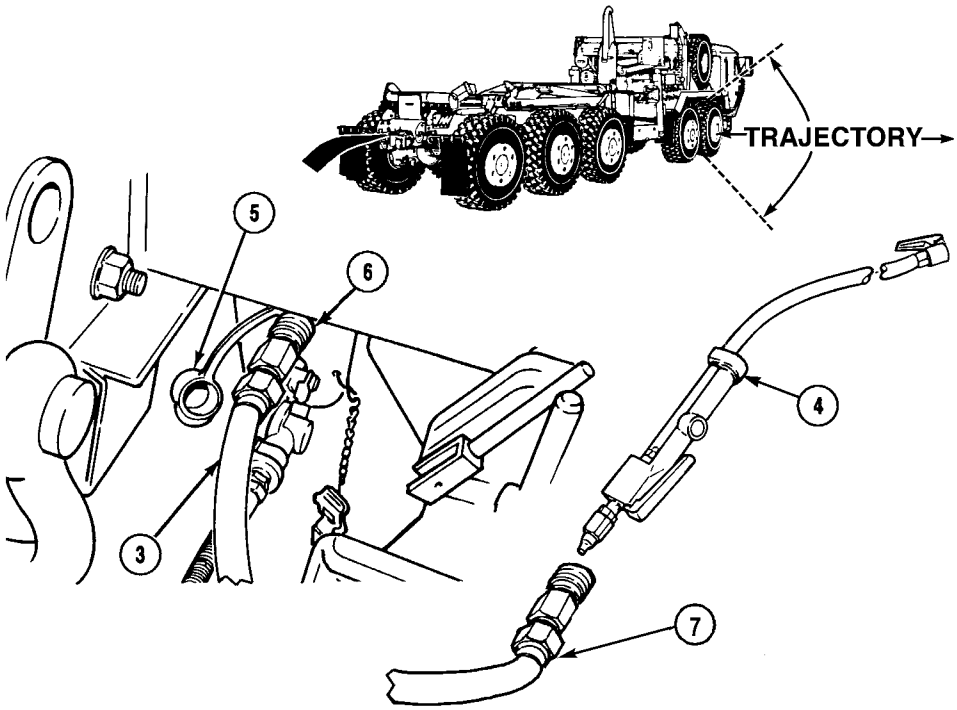
(2) Set rotary selection switch (2) to the appropriate road condition. See Table 1-28.

(3) Refer to Table 2-9 for correct tire pressure.

Table 2-9. CTIS Maximum Air Pressure Settings (Cold or Hot)

SETTING	FRONT WHEELS	REAR WHEELS
1. HIGHWAY	65 psi (448 kPa)	75 psi (517 kPa)
2. CROSS COUNTRY	34 psi (234 kPa)	38 psi (262 kPa)
3. MUD, SAND AND SNOW	20 psi (138 kPa)	23 psi (159 kPa)
4. EMERGENCY	15 psi (103 kPa)	18 psi (124 kPa)

2-57. EMERGENCY PROCEDURES (CONT).



WARNING

Hold end of air hose when connecting to quick-disconnect coupling. Air hose is under pressure and can fly out at fast rate of speed causing injury to personnel.

NOTE

If CTIS is not working, tires may be inflated manually. Inflate tires only when they are cool. Inflate to proper pressure for terrain conditions.

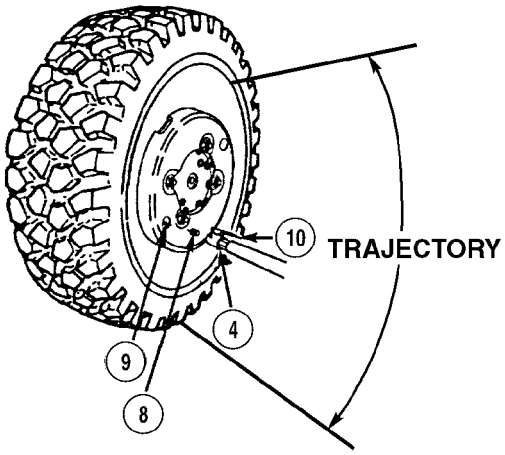
(4) Remove air hose assembly (3) and inflator gage (4) from stowage box.

(5) Remove cover (5) from quick-disconnect coupling (6).

(6) Connect air hose assembly (3) to quick-disconnect coupling (6).

(7) Connect inflator gage (4) to quick-disconnect coupling (7) on air hose assembly (3).

(8) Start engine (Para 2-15).



(9) Remove valve cap (8) from valve stem (9).

NOTE

- Inflator gage must clamp securely with no air leaks or the air pressure gage reading will be inaccurate.
- Trajectory area as shown applies to all wheel/tire assemblies.

(10) Push latch handle (10) inward, while pushing air chuck assembly (4) onto valve stem (9). Release latch handle and immediately step out of the trajectory area. Read tire air pressure gage on inflator gage and compare to Table 2-10.

WARNING

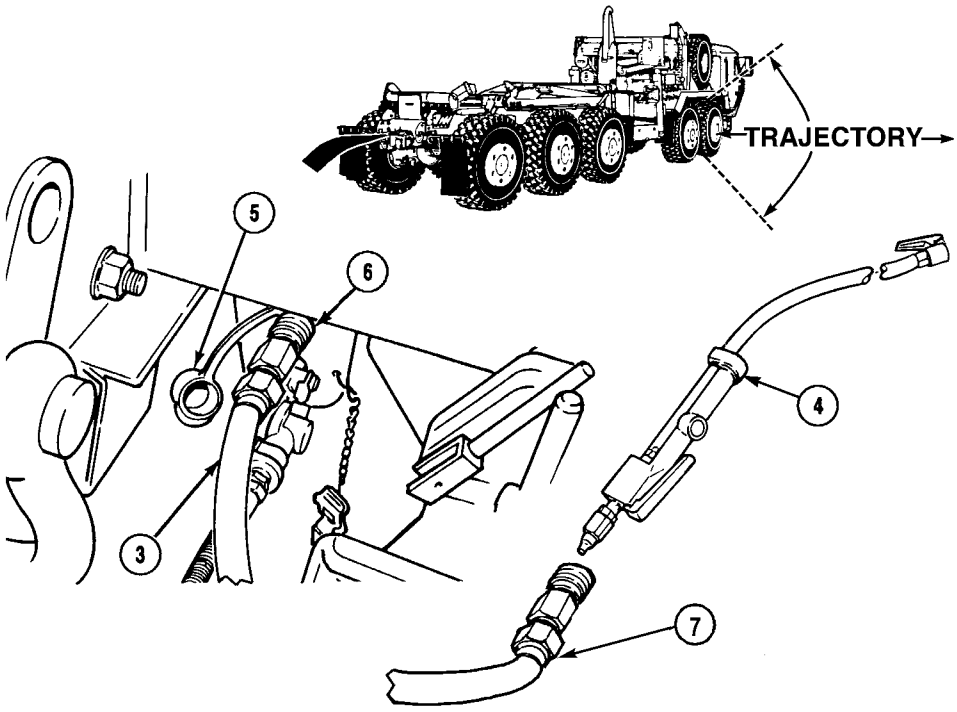
- Before inflating or deflating, stand out of the trajectory area or personal injury or death may result.
- If the tire is underinflated or overinflated, or there is obvious or suspected damage on the tire or wheel components, the tire must be completely deflated by removing the valve core from the valve stem or personal injury or death may result.

(11) Inflate/deflate tire to proper pressure (see Table 2-9).

(12) Push in latch handle (10) and disconnect air chuck assembly (4) from valve stem (9).

(13) Install valve cap (8) on valve stem (9).

2-57. EMERGENCY PROCEDURES (CONT).



WARNING

Hold end of air hose when disconnecting from quick-disconnect coupling. Air hose is under pressure and can fly out at fast rate of speed causing injury to personnel.

(14) Remove air hose assembly (3) from quick-disconnect coupling (6).

(15) Install cover (5) on quick-disconnect coupling (6).

(16) Remove air chuck assembly (4) from quick-disconnect coupling (7) on air hose assembly (3).

(17) Stow air hose assembly (3) and air chuck assembly (4) in stowage box.

(18) Shut OFF engine (Para 2-23).

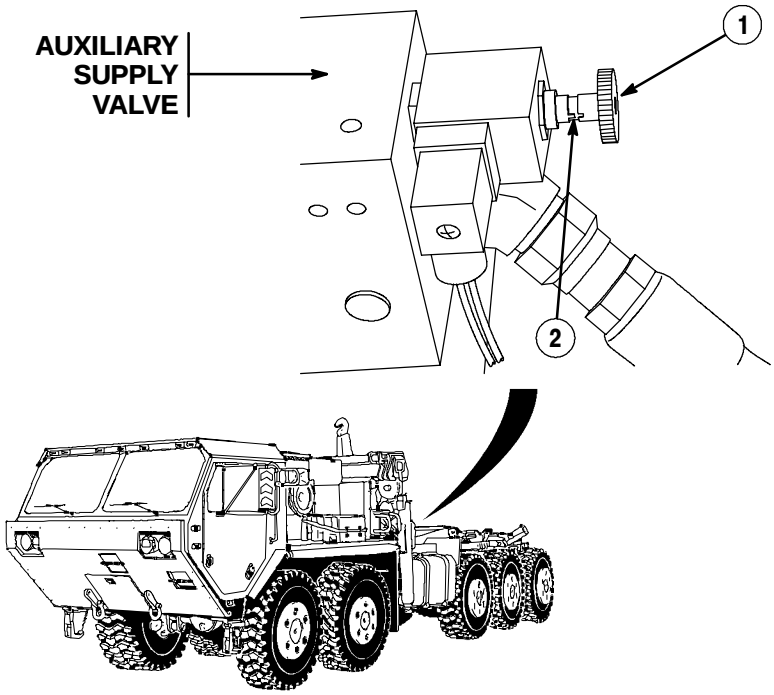
WARNING

If tire has been run flat, or is over or underinflated when tire pressure measured and operating terrain is compared to Table 2-10, or if wheel/tire assembly has obvious or suspected damage, it is not safe to adjust tire pressure. Completely deflate tire according to Para 2-57j, and remove the tire from the axle. Failure to follow these procedures may result in serious personal injury or death.

Table 2-10. Unsafe Inflation Pressures

	Spare Tire is:	**Spare Tire is:**	**Front Tires Are:**	**Front Tires Are:**	**Rear Tires Are:**	**Rear Tires Are:**
	Over-inflated. Tire pressure measured is 25% or more above the standard tire pressure. **Do not adjust pressure if above pressure shown below.**	Under-inflated. Tire pressure measured is 80% or less than the standard tire pressure. **Do not adjust pressure if below pressure shown below.**	Over-inflated. Tire pressure measured is 25% or more above the standard tire pressure. **Do not adjust pressure if above pressure shown below.**	Under-inflated. Tire pressure measured is 80% or less than the standard tire pressure. **Do not adjust pressure if below pressure shown below.**	Over-inflated. Tire pressure measured is 25% or more above the standard tire pressure. **Do not adjust pressure if above pressure shown below.**	Under-inflated. Tire pressure measured is 80% or less than the standard tire pressure. **Do not adjust pressure if below pressure shown below.**
Highway	94 psi (648 kPa)	60 psi (414 kPa)	81 psi (558 kPa)	94 psi (648 kPa)	52 psi (359 kPa)	60 psi (414 kPa)
Cross Country	94 psi (648 kPa)	60 psi (414 kPa)	43 psi (296 kPa)	48 psi (331 kPa)	27 psi (186 kPa)	30 psi (207 kPa)
Mud, Sand and Snow	94 psi (648 kPa)	60 psi (414 kPa)	25 psi (172 kPa)	29 psi (200 kPa)	16 psi (110 kPa)	18 psi (124 kPa)
Emergency	94 psi (648 kPa)	60 psi (414 kPa)	15 psi (103 kPa)	18 psi (124 kPa)	15 psi (684 kPa)	18 psi (124 kPa)

2-57. EMERGENCY PROCEDURES (CONT).



k. Interface Emergency Procedures.

(1) Interface emergency operation with electrical failure:

NOTE

- This procedure will provide emergency hydraulic power to auxiliary supply valve when solenoid fails until failure can be repaired.
- Manual override button cannot be turned on until it is pulled out past the notches located behind button. Visually check when performing this procedure.

(a) Pull out manual override button (1) past notches (2) and turn clockwise.

(b) Operate system hydraulics.

(c) Turn manual override button (1) counterclockwise and engage notches (2) in manual override button (1).

(d) Notify Unit Maintenance.

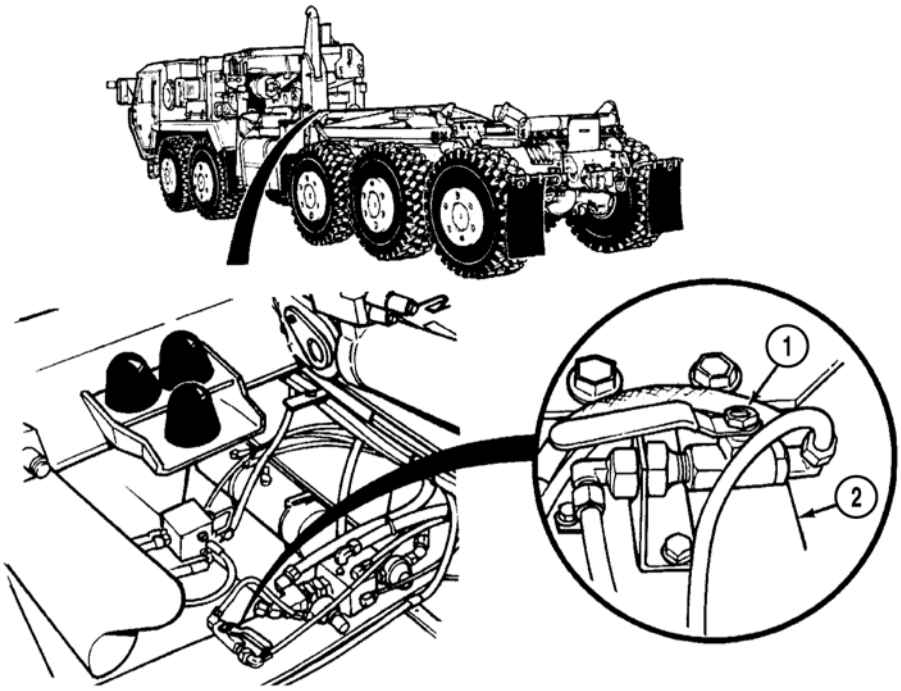
I. Limp Home Procedure.

NOTE

This procedure will provide emergency air pressure to CTIS when system pressure drops below 85 psi (586 kPa) due to leaking air bag on Axle No. 3.

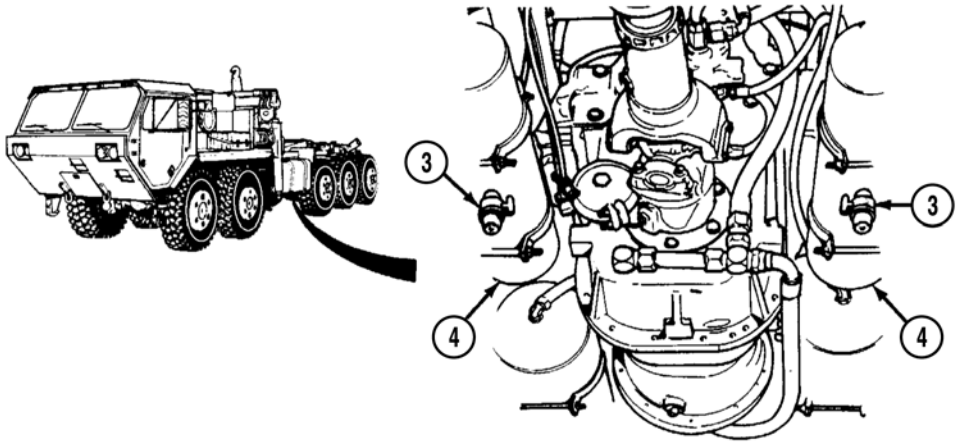
(1) Shut OFF engine (Para 2-23).

(2) Chock wheels (Para 2-22).



(3) Close ball valve (1) located on top of crossmember (2).

2-57. EMERGENCY PROCEDURES (CONT).



(4) Open drain (3) on both air tanks (4) (rear tank on both sides of truck).

(5) Remove wheel chocks (Para 2-22).

(6) Start engine (Para 2-15).

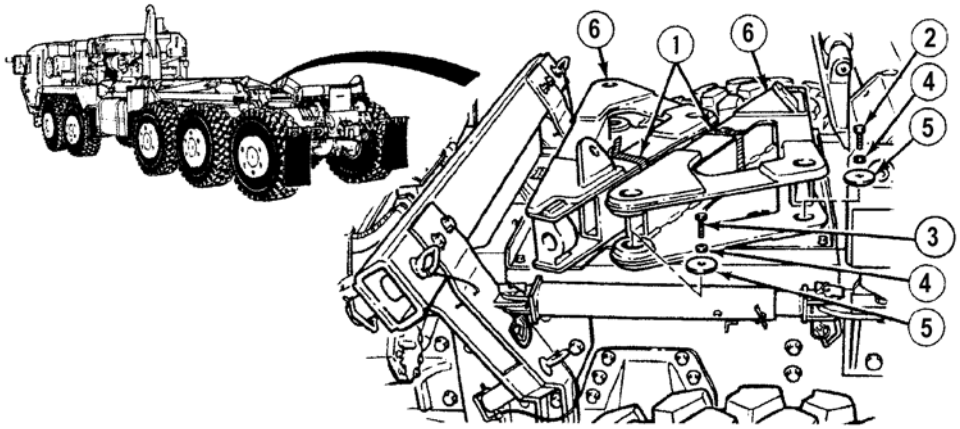
CAUTION

Maximum speed of PLS in limp home mode is 5 mph (8 km/hr) off-road and 15 mph (24 km/hr) on-road. Driving at speeds exceeding this may result in damage to PLS.

(7) Notify Unit Maintenance.

2-58. TRUCK PREPARATION FOR TRANSPORT.

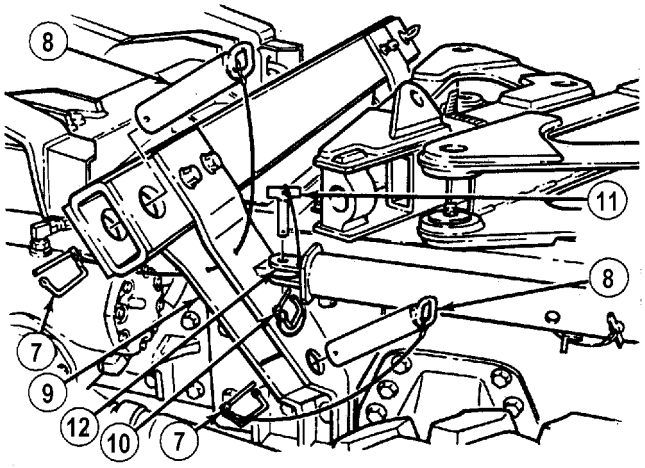
a. Truck Preparation for Lift.



NOTE

Ensure Container Handling Unit (CHU) is in stowed position if equipped (Para 2-43).

(1) Remove lift bracket tie down straps (1), two screws (2), screws (3), four lockwashers (4) and plates (5) from brackets (6). Discard lockwashers.



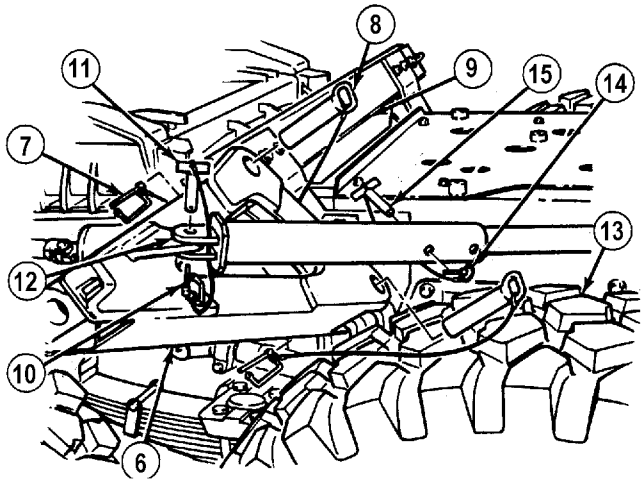
NOTE

- Secure mounting hardware to bracket storage grill for storage.
- Both brackets are installed the same way. Left bracket is shown.

(2) Remove two safety pins (7) and two lift assembly pins (8) from lift assembly (9).

(3) Remove front safety pin (10) and pin (11) from stabilizer arm (12).

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



(4) Swing stabilizer arm (12) out to rest on tire (13).

WARNING

Brackets weigh 80 lbs. (36 kg). Use an assistant to prevent injury to personnel.

(5) With the aid of an assistant, install bracket (6) on lift assembly (9) using lift assembly pins (8).

(6) Lock lift assembly pin (8) with safety pin (7).

(7) Remove safety pin (14) and pin (15) from stabilizer arm (12).

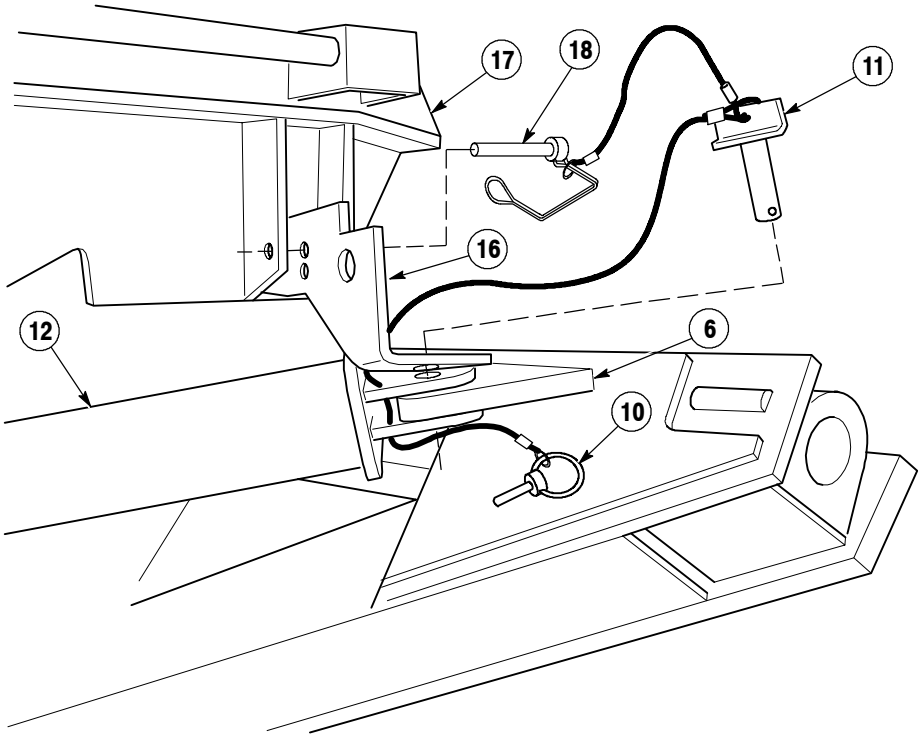
(8) Extend stabilizer arm (12).

(9) Install pin (15) to stabilizer arm (12) and lock with safety pin (14).

NOTE

- Perform Step (10) if truck is not equipped with Container Handling Unit (CHU).
- Perform Steps (11) and (12) if truck is equipped with Container Handling Unit (CHU).

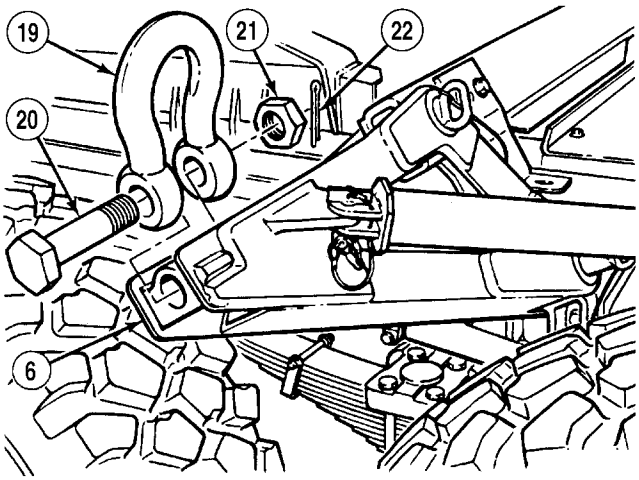
(10) Attach stabilizer arm (12) to bracket (6) using pin (11) and lock with safety pin (10).



(11) Attach stabilizer arm (12) to bracket (6) using pin (11), bracket (16) and lock with safety pin (10).

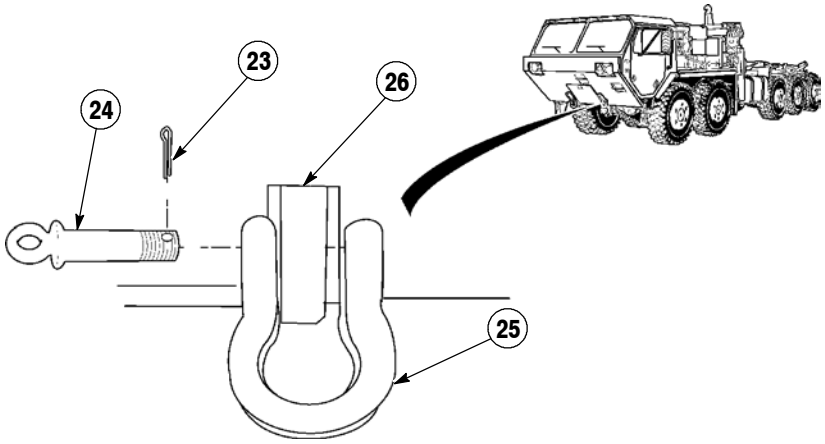
(12) Secure slider (17) to bracket (16) using pin (18).

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



(13) Attach hard lift shackle (19) to bracket (6) using screw (20), nut (21) and cotter pin (22).

(14) Repeat Steps (2) through (13) to install right bracket.

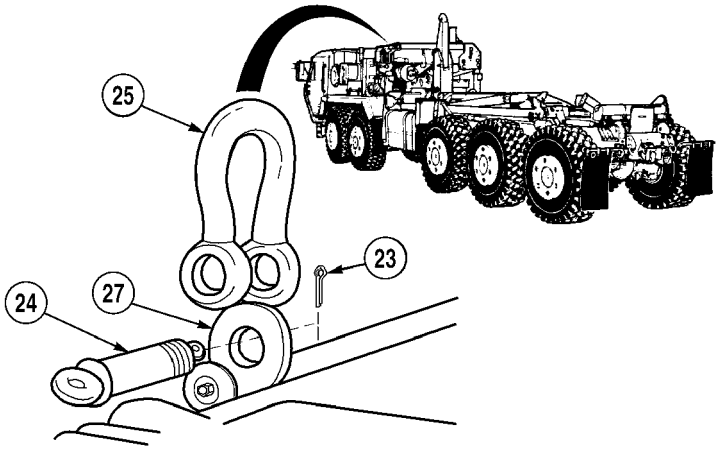


NOTE

Both shackles are removed the same way. Left shackle is shown.

(15) Remove cotter pin (23) from screw (24).

(16) Remove screw (24) and towing shackle (25) from toweye (26).



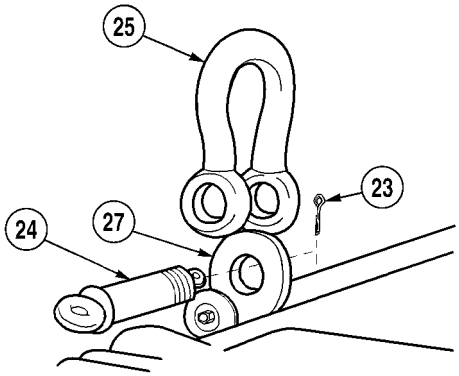
NOTE

Both shackles are installed the same way. Left shackle is shown.

(17) Attach towing shackle (25) to bracket (27) using screw (24), and cotter pin (23).

(18) Repeat Steps (15) through (17) to install right shackle.

b. Preparation After Lift.



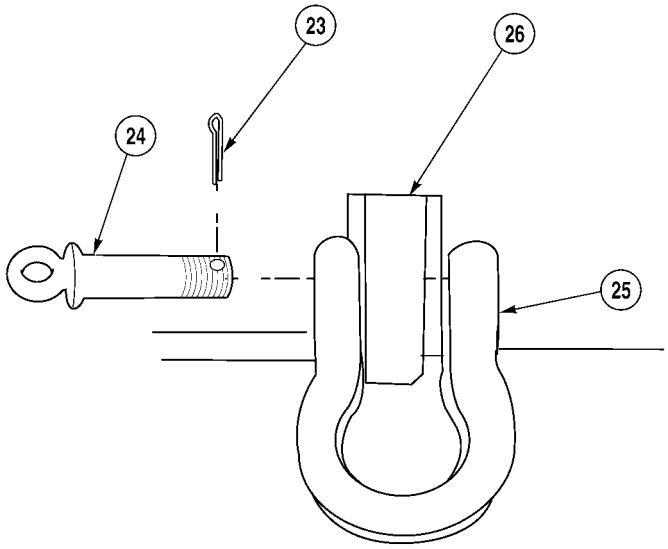
NOTE

Both shackles are removed the same way. Left shackle is shown.

(1) Remove cotter pin (23), screw (24) and towing shackle (25) from bracket (27).

(2) Repeat Step (1) to remove right shackle.

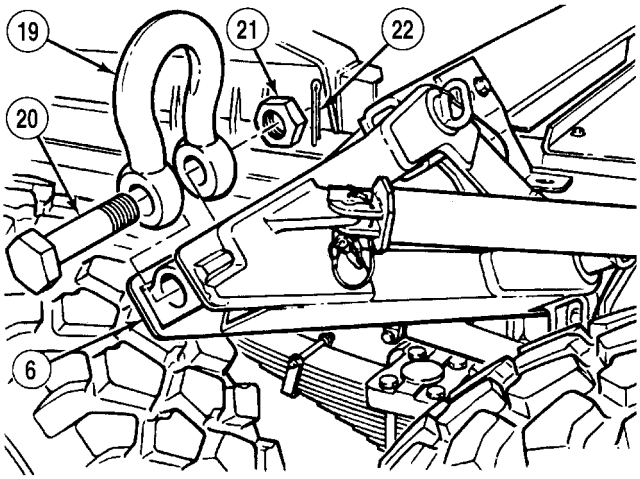
2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



(3) Install towing shackle (25) on toweye (26) with screw (24).

(4) Install cotter pin (23) in screw (24).

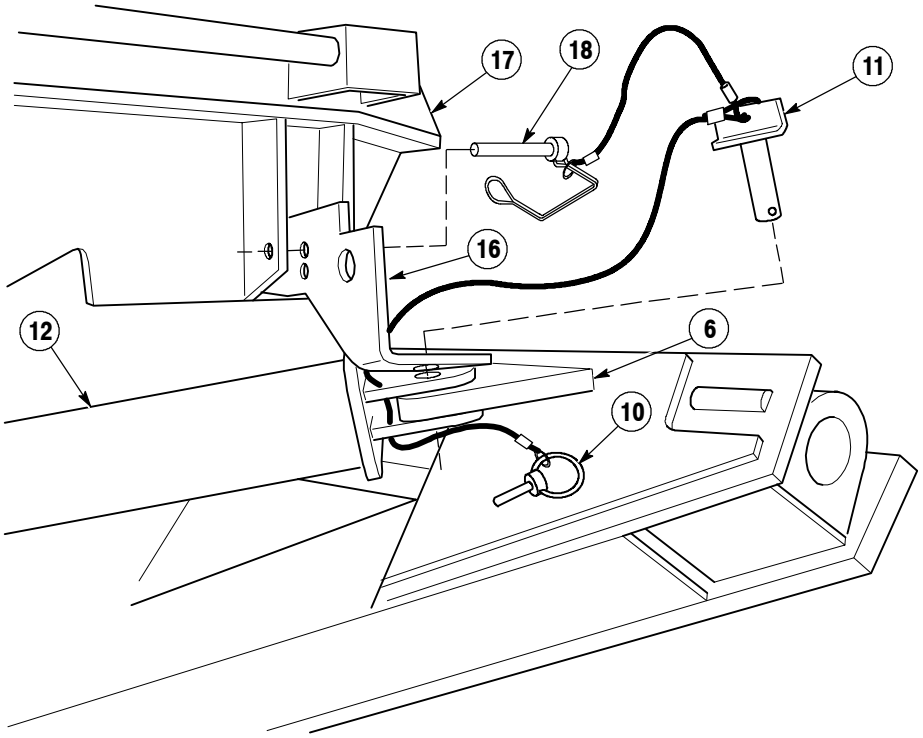
(5) Repeat Steps (3) and (4) for right shackle.



NOTE

Both brackets are removed the same way. Left bracket is shown.

(6) Remove cotter pin (22), nut (21), screw (20) and hard lift shackle (19) from bracket (6). Stow shackle in stowage box.



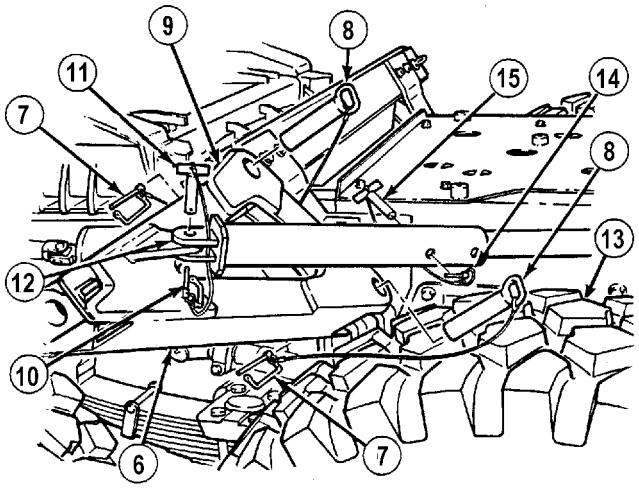
NOTE

- Perform Steps (7) and (8) if truck is equipped with Container Handling Unit (CHU).
- Perform Step (9) if truck is not equipped with Container Handling Unit (CHU).

(7) Remove pins (18) from bracket (16) and slider (17).

(8) Remove safety pin (10), pin (11) and bracket (16) from bracket (6) and stabilizer arm (12).

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



(9) Remove safety pin (10) and pin (11) from bracket (6).

(10) Swing stabilizer arm (12) out to rest on tire (13).

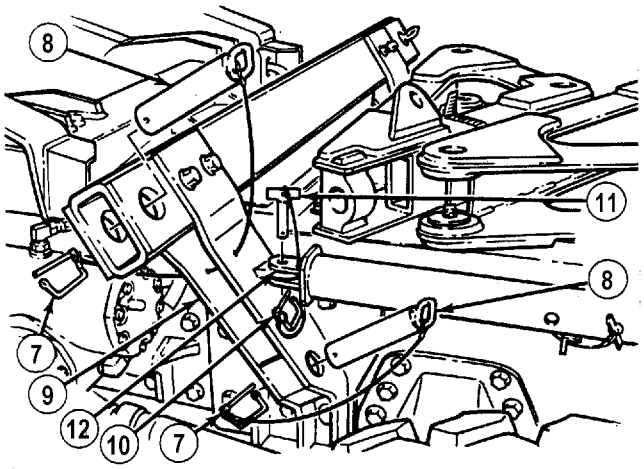
(11) Remove safety pin (14) and pin (15) from stabilizer arm (12).

(12) Retract stabilizer arm (12).

(13) Install pin (15) and safety pin (14) to stabilizer arm (12).

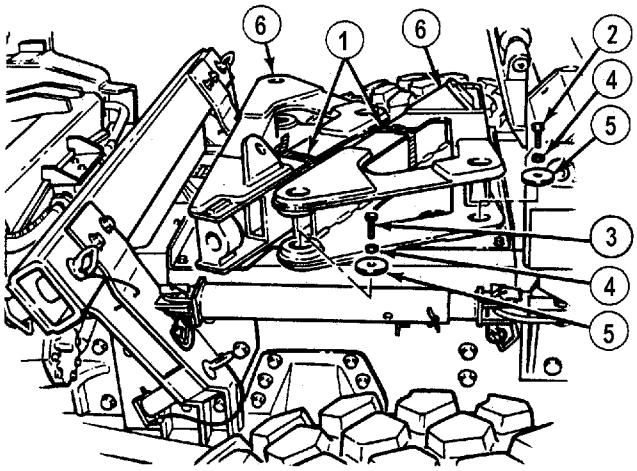
(14) Remove safety pin (7) and lift assembly pin (8) from bracket (6).

(15) Remove bracket (6) from lift assembly (9).



(16) Install stabilizer arm (12) to lift assembly (9) with pin (11) and lock with safety pin (10).

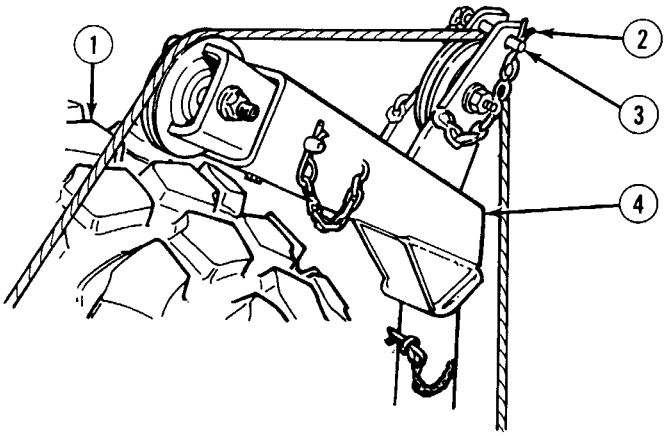
(17) Install two lift assembly pins (8) to lift assembly (9) and lock with two safety pins (7).



(18) Install lift brackets (6) to stowage position with four plates (5), lockwashers (4), two screws (3), screws (2) and two lift bracket tie down straps (1).

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).

c. Truck Preparation for Air Transport.



WARNING

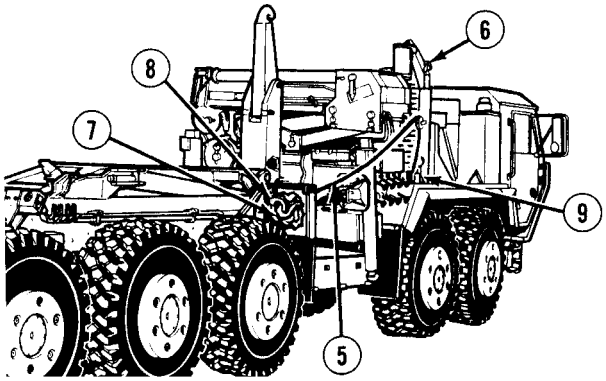
Tire assembly is very heavy 500 lb. (227 kg). Do not try to lift or catch tire assembly. Injury to personnel could result.

NOTE

Unit Maintenance must remove the machine gun mount prior to air transport.

(1) Remove spare tire (1) (Para 3-5). Roll tire to back of truck and lay it down flat with valve stem facing up.

(2) Remove safety pin (2) and pin (3) from tire davit (4).

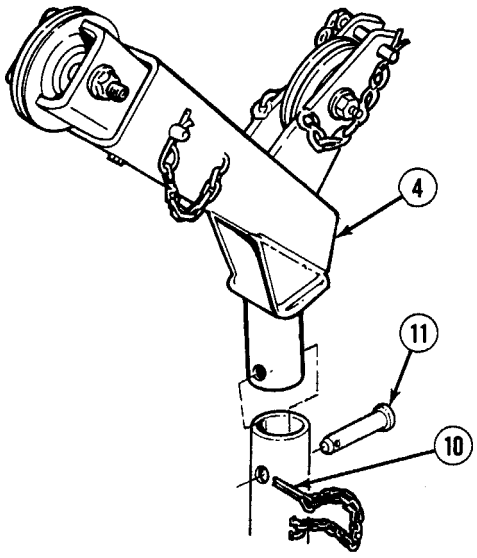


(3) Pull cable (5) back from davit support (6) and attach hook (7) to frame eyelet (8).

CAUTION

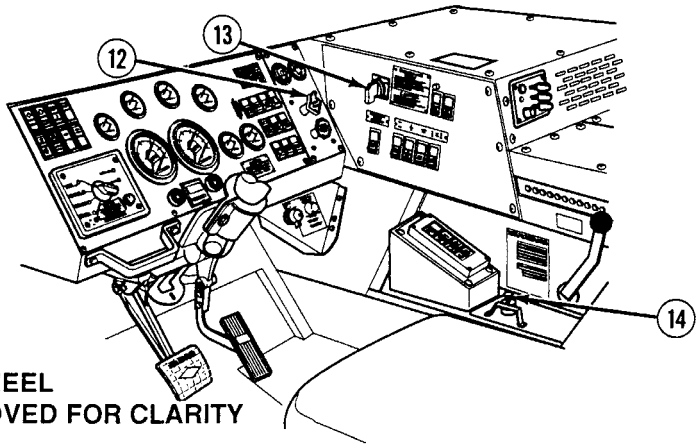
Do not wind cable too tight on winch. Cable should be wound snug. Winding cable too tight could cause damage to equipment.

(4) Wind excess cable (5) back on winch (9).



(5) Remove safety pin (10), pin (11) and remove tire davit (4).

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



STEERING WHEEL
SHOWN REMOVED FOR CLARITY

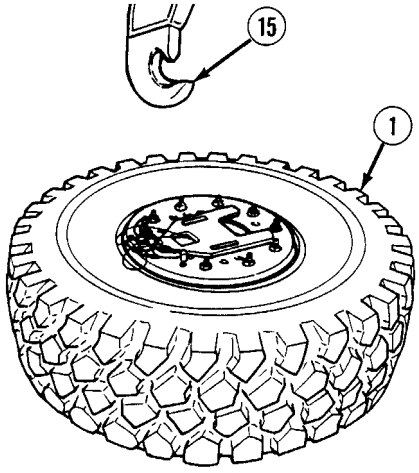
CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(6) Chock wheels (Para 2-19).

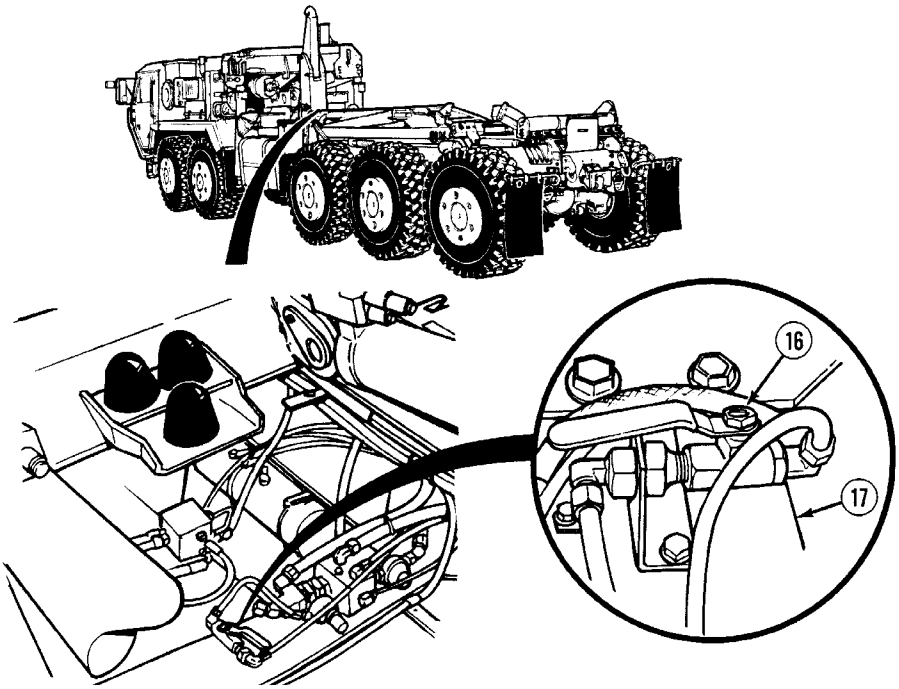
(7) Start engine (Para 2-15), and apply parking brakes (12).

(8) Move hydraulic selector switch (13) to AUTO.



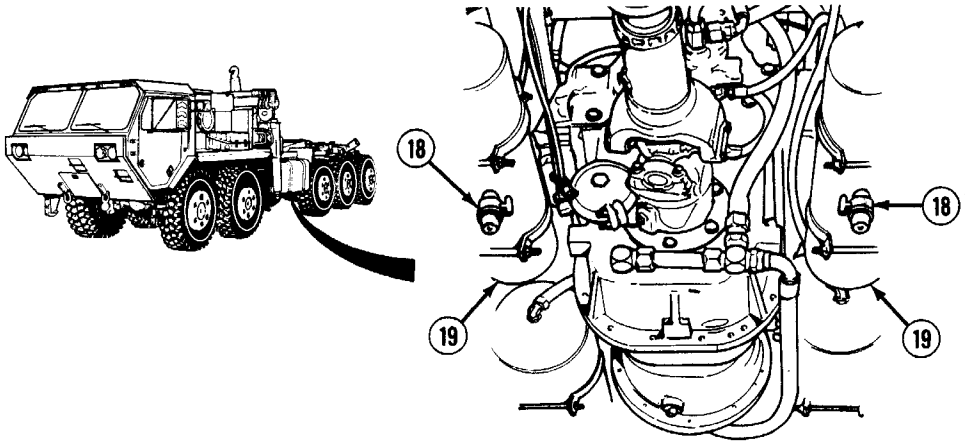
(9) Move joystick (14) to UNLOAD until hook (15) is one or two ft. (30.5 to 61 cm) above spare tire (1).

(10) Release joystick (14).



(11) Shut OFF engine (Para 2-23).

(12) Keeping LHS in this position, close ball valve (16) located on crossmember (17) in front of Axle No. 3.

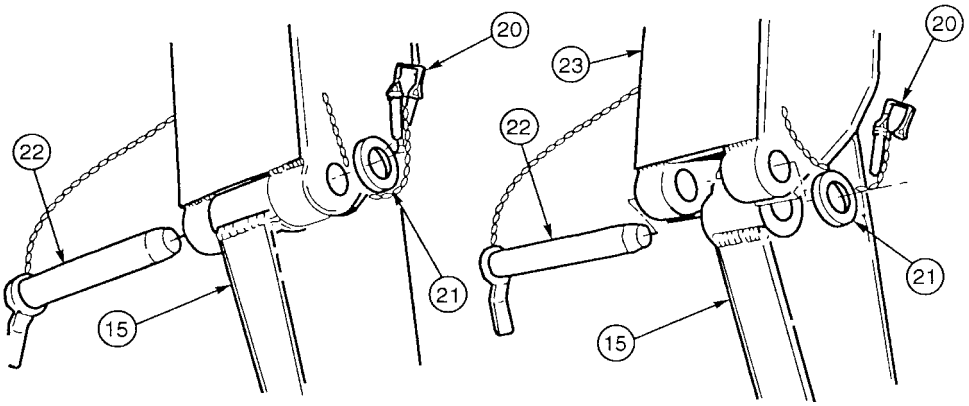


NOTE

Step (13) drains air from Axle No. 3 air bags.

(13) Open drain valves (18) on both air tanks (19) (rear tank on each side of truck). Leave drain valves open.

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



NOTE

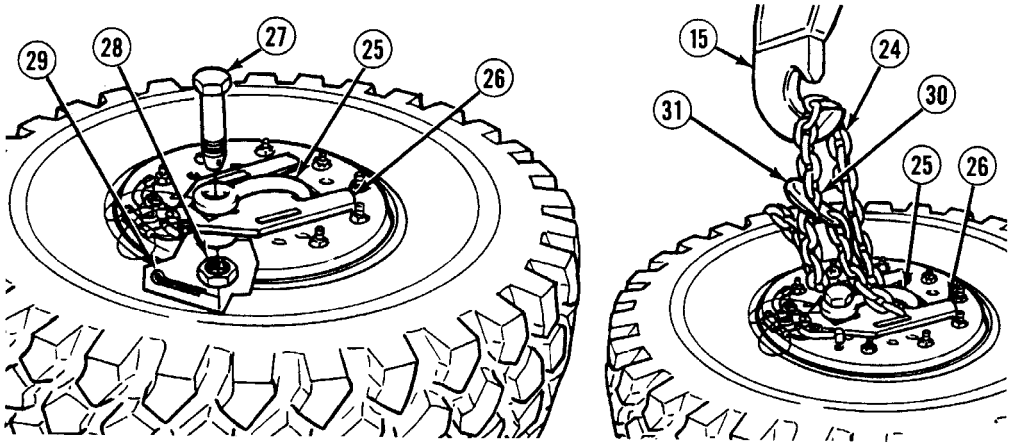
- Perform Steps (14) and (15) if truck is not equipped with Container Handling Unit (CHU).
- Perform Para 2-41 if truck is equipped with Container Handling Unit (CHU).

WARNING

Lift-hook weighs 150 lbs. (68 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel.

(14) Remove safety pin (20), washer (21) and LHS hook arm pin (22) from hook (15).

(15) Position hook (15) towards truck and reinsert hook arm pin (22), washer (21) and safety pin (20) through main beam (23) only.



(16) Remove chain (24), clevis (25) and ratchet strap from stowage box.

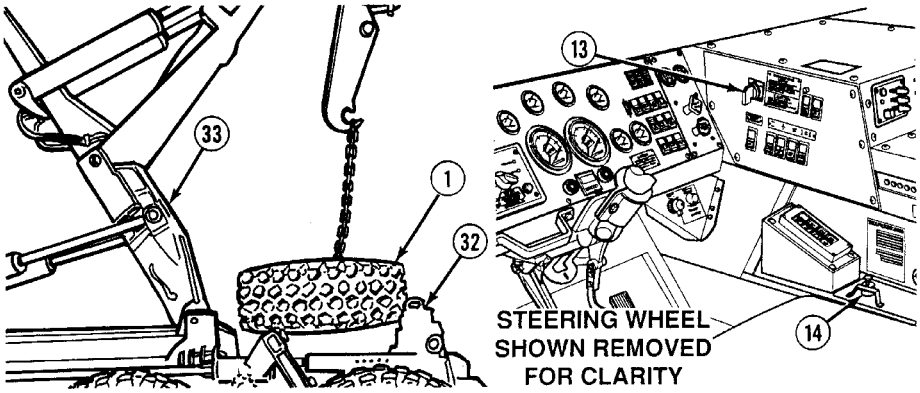
(17) Install clevis (25) to spare tire carrier plate (26) with screw (27), nut (28) and cotter pin (29).

(18) Thread chain (24) through clevis (25).

(19) Count out 50 links (30) and make a loop with chain (24) by draping it over LHS hook (15) and placing the chain hook (31) around a chain link (30).

(20) Start engine (Para 2-15).

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



WARNING

Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a system height of 17 ft. 2 in. (5.22 m). Serious injury or death to personnel could result from contact with electrical power lines.

CAUTION

- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.
- Do not allow spare tire to swing back and forth while raising tire. Raise tire slowly during lifting operation and do not allow tire to strike LHS with force. Failure to comply could cause serious damage to equipment.

(21) Set hydraulic selector switch (13) to MAN H.A.

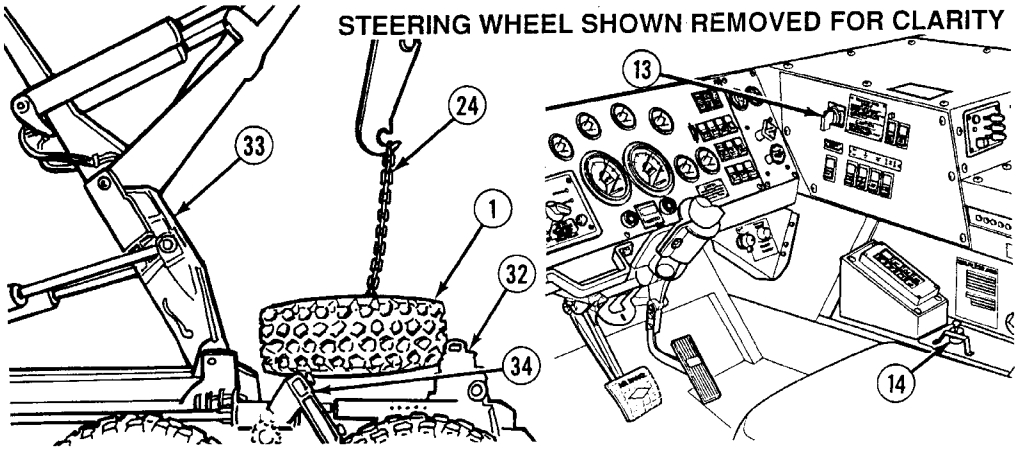
(22) Move joystick (14) to LOAD until spare tire (1) is lifted above the rear rollers (32).

(23) Release joystick (14).

(24) Set hydraulic selector switch (13) MAN M.F.

(25) Move joystick (14) to LOAD until spare tire (1) contacts LHS (33).

(26) Release joystick (14).



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(27) Set hydraulic selector switch (13) to MAN H.A.

(28) Move joystick (14) to UNLOAD until spare tire (1) has moved approximately 1 ft. (30.5 cm) away from LHS (33).

(29) Release joystick (14).

(30) Set hydraulic selector switch (13) to MAN M.F.

(31) Move joystick (14) to LOAD until spare tire (1) contacts LHS (33).

(32) Release joystick (14).

NOTE

The tire should not rest on top of the rear roller bracket.

(33) Repeat Steps (27) through (32) until spare tire (1) rests on top of hard lift brackets (34) and just touching forward side of rear roller brackets (32).

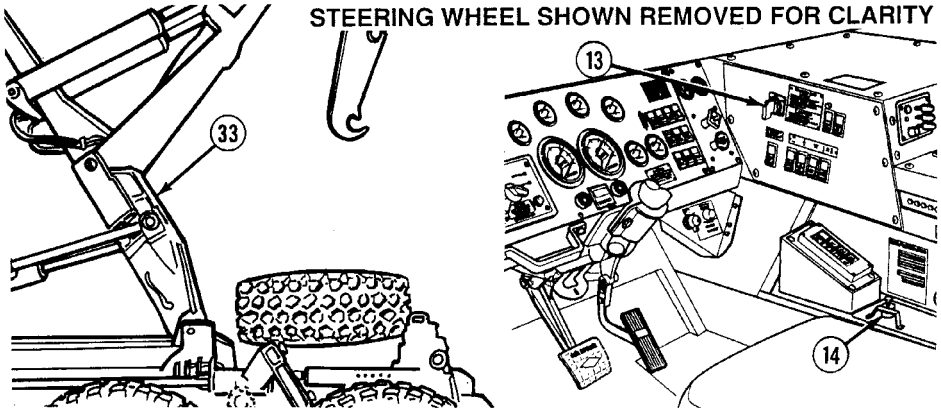
(34) Remove chain (24) and return it to stowage box.

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

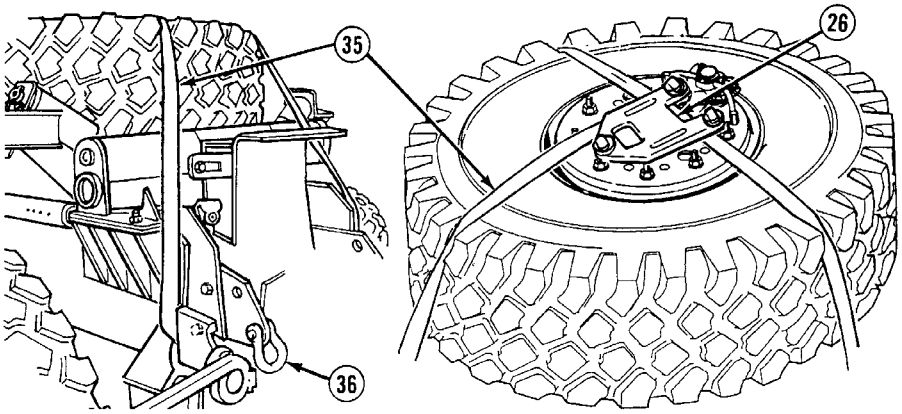
(35) Set hydraulic selector switch (13) to AUTO.

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



(36) Move joystick (14) to LOAD until LHS (33) is fully retracted into its transport position.

(37) Turn hydraulic selector switch (13) OFF.

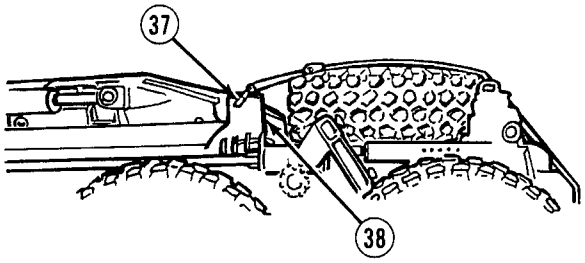


NOTE

Ensure the strap does not overlap wheel valve.

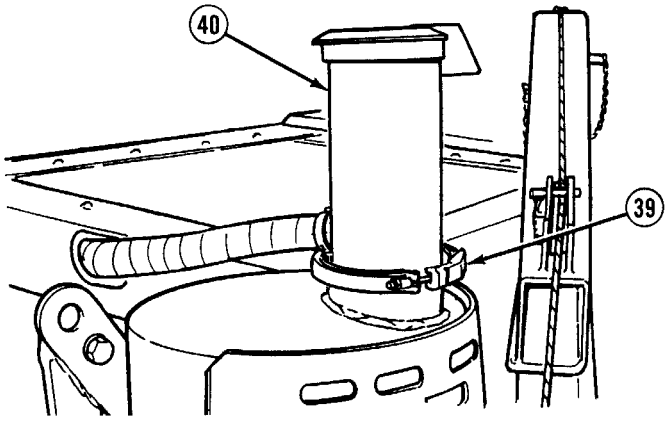
(38) Thread ratchet strap (35) through two slots in spare tire carrier plate (26).

(39) Hook one end of strap (35) on the lifting shackle (36).

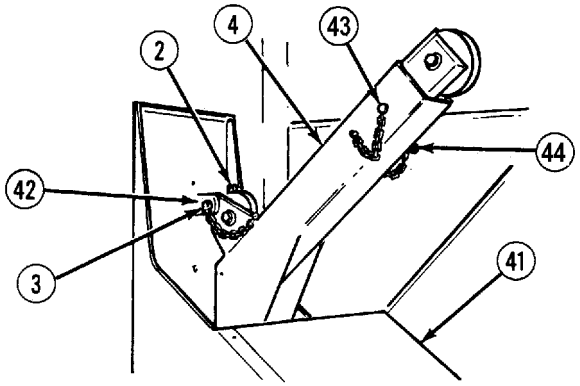


(40) Hook the ratchet strap ends diagonally to lifting eyes (37) on rear of the LHS frame (38).

(41) Tighten ratchet straps securely.



(42) Pull up on clamp lever (39) and remove muffler stack (40



(43) Move tire davit (4) down to the spare tire carrier (41) and install pin (3) through bracket (42) and install safety pin (2) to lock the davit in place.

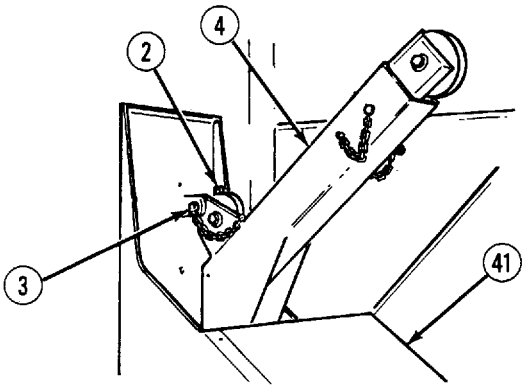
(44) Ensure that tire davit (4) is in retracted position and is locked in place with pin (43) and safety pin (44).

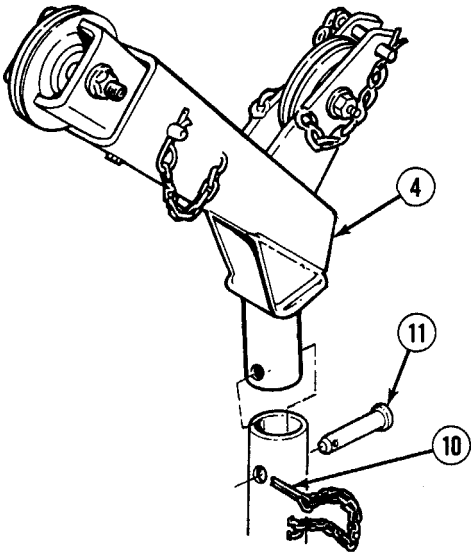
(45) Fold in mirrors.

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).

d. Truck Preparation After Air Transport.

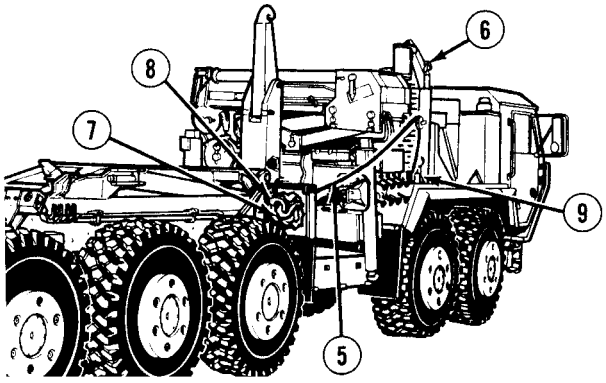
(1) Chock wheels, (Para 2-19).





(2) Remove safety pin (2), pin (3) and tire davit (4) from spare tire carrier (41).

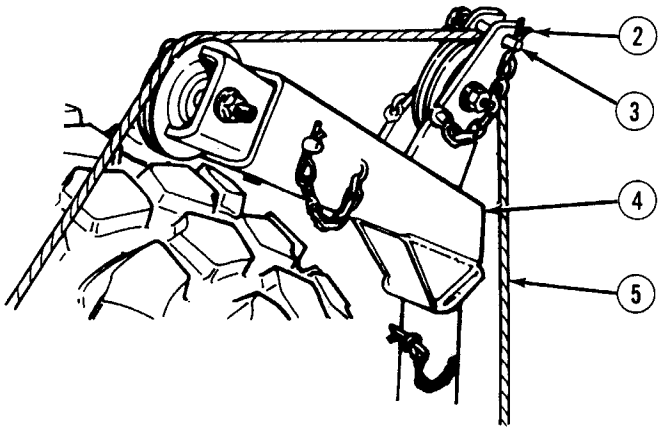
(3) Install tire davit (4) with pin (11) and safety pin (10).



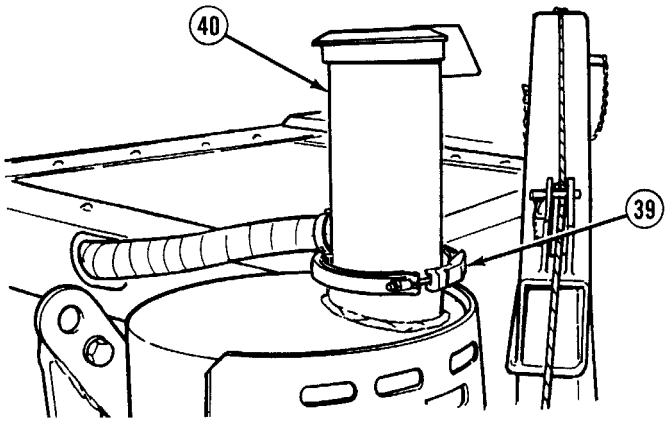
(4) Loosen cable (5) on winch (9).

(5) Remove hook (7) from frame eyelet (8).

(6) Pull cable (5) up along davit support (6).

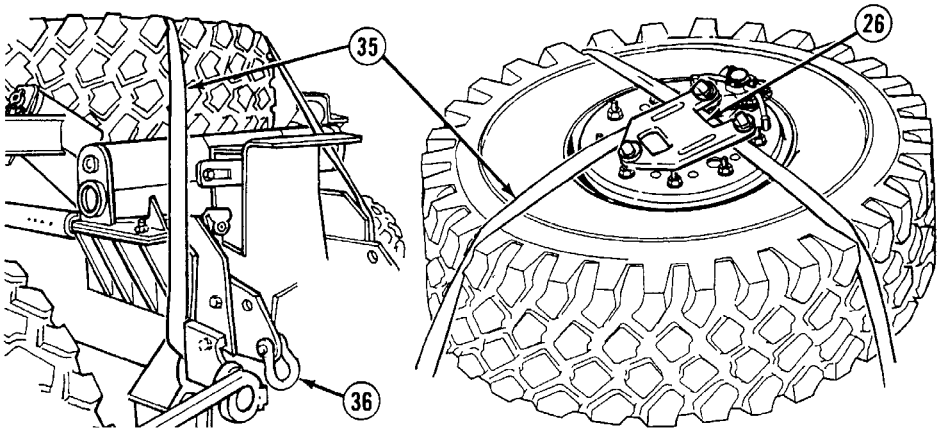


(7) Install cable (5) to davit (4) with pin (3) and safety pin (2).

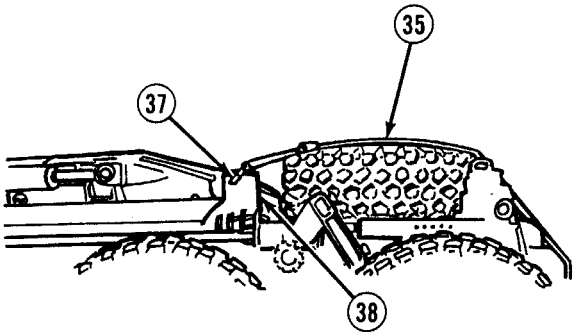


(8) Install muffler stack (40) with clamp (39).

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



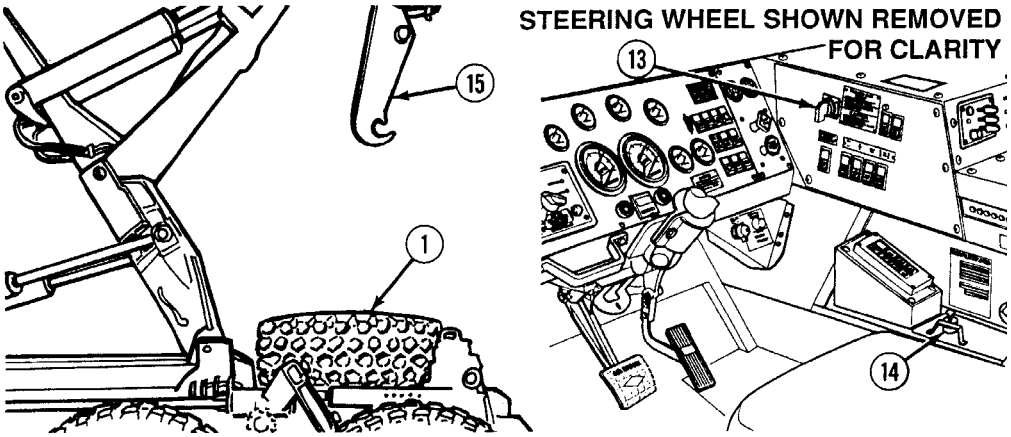
(9) Remove ratchet straps (35) from lifting shackles (36) and spare tire carrier plate (26).



(10) Remove ratchet straps (35) from lifting eyes (37) on rear of LHS frame (38) and return them to stowage.

(11) Fold out mirrors.

(12) Start truck (Para 2-15) and apply parking brake.



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

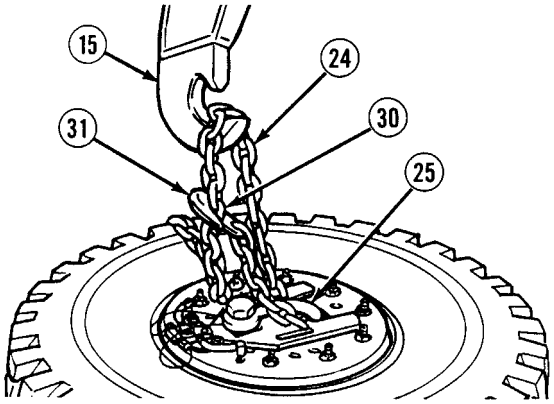
(13) Set hydraulic selector switch (13) to MAN H.A.

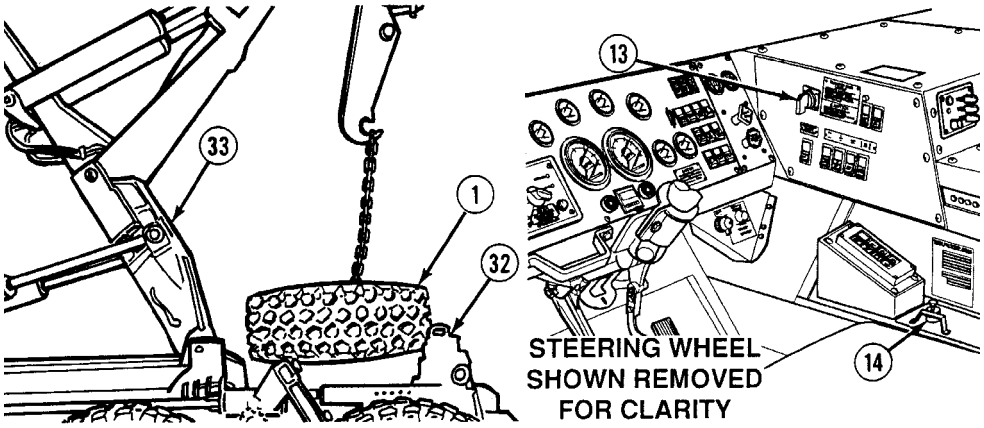
WARNING

Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a system height of 17 ft. 2 in. (5.22 m) without ISO container. Serious injury or death to personnel could result from contact with electrical power lines.

(14) Move joystick (14) to UNLOAD until hook arm (15) is above spare tire (1).

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).





(15) Release joystick (14).

(16) Remove chain (24) from stowage.

(17) Thread chain (24) through clevis (25).

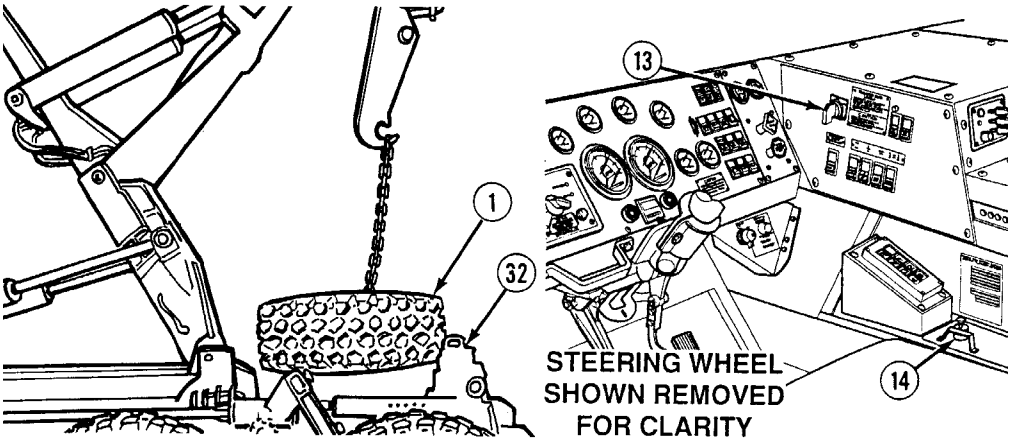
(18) Count out 50 links (30) and make a loop with chain (24) by draping it over the LHS hook (15) and placing the chain hook (31) around a chain link (30).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(19) Set hydraulic selector switch (13) to MAN H.A.

(20) Move joystick (14) to LOAD and lift spare tire (1) until tire clears rollers (32) and contacts the LHS (33).



(21) Release joystick (14).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(22) Set hydraulic selector switch (13) to MAN M.F.

(23) Move joystick (14) to UNLOAD until spare tire (1) contacts the truck or rear rollers (32).

(24) Release joystick (14).

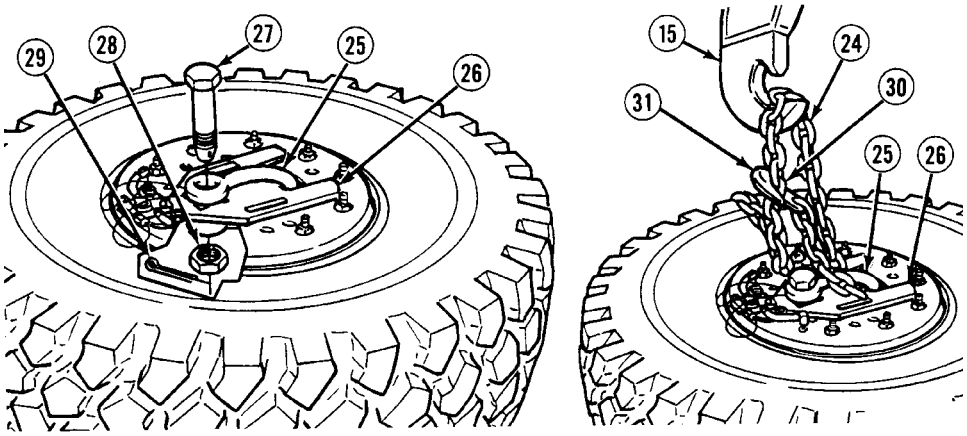
(25) Repeat Steps (18) through (23) until tire (1) clears rear of truck.

(26) Set hydraulic selector switch (13) to MAN H.A.

(27) Move joystick (14) to UNLOAD until spare tire (1) rests on ground.

(28) Release joystick (14).

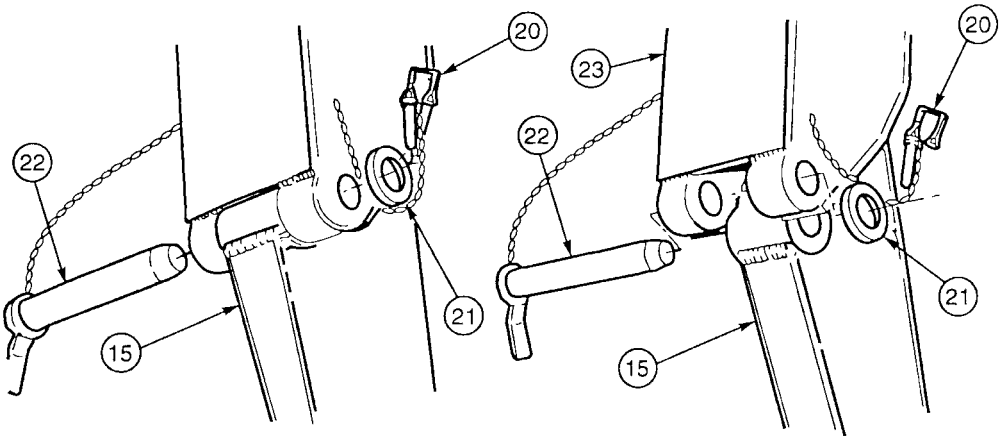
2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



(29) Remove chain hook (31) from link (30).

(30) Remove chain (24) from hook (15), clevis (25) and spare tire carrier plate (26) and return it to stowage.

(31) Remove cotter pin (29), nut (28), screw (27) and clevis (25) from spare tire carrier (26) and return to stowage.



NOTE

- Perform Steps (32) and (33) if truck is not equipped with Container Handling Unit (CHU).
- Perform Para 2-41 if truck is equipped with Container Handling Unit (CHU).

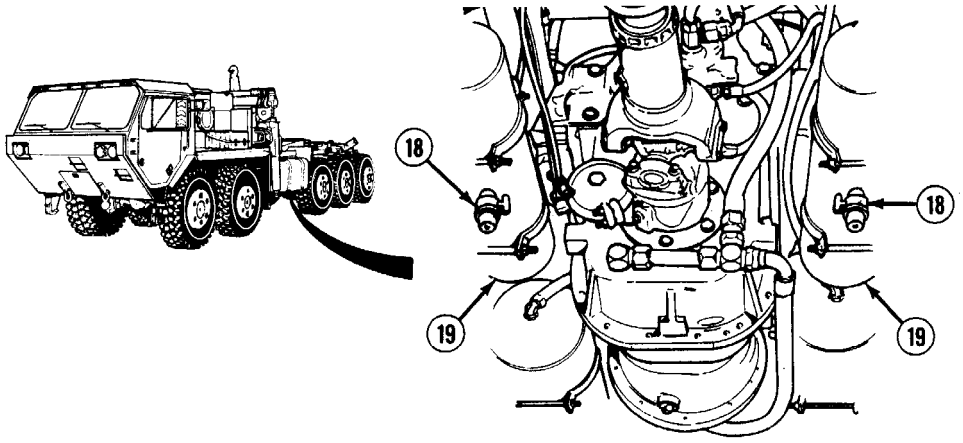
WARNING

Lift-hook weighs 150 lbs. (68 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel

(32) Remove safety pin (20), washer (21) and pin (22) from main beam (23).

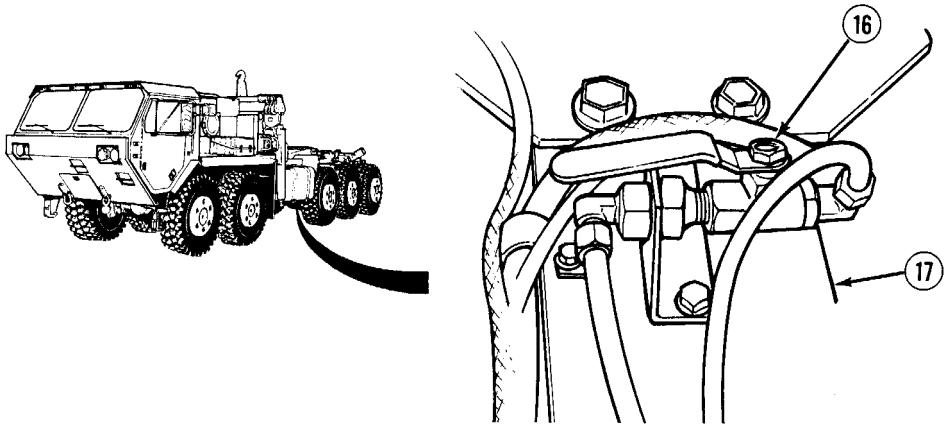
(33) Position hook to rear and install pin (22) through hook arm (15) and main beam (23), with washer (21) and safety pin (20).

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).

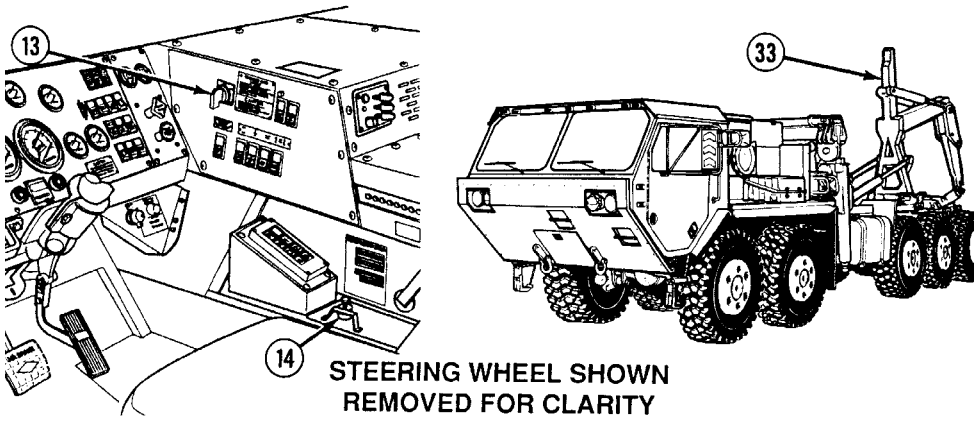


(34) Shut OFF engine (Para 2-23).

(35) Close drain valves (18) on both rear air tanks (19).



(36) Open ball valve (16) on crossmember (17).



(37) Start engine (Para 2-15).

CAUTION

Engine speed must be idle before using hydraulic selector switch, or damage to equipment may result.

(38) Set hydraulic selector switch (13) to AUTO.

(39) Move joystick (14) to LOAD position until LHS (33) if fully stowed.

(40) Set hydraulic selector switch (13) to OFF.

(41) Release joystick (14).

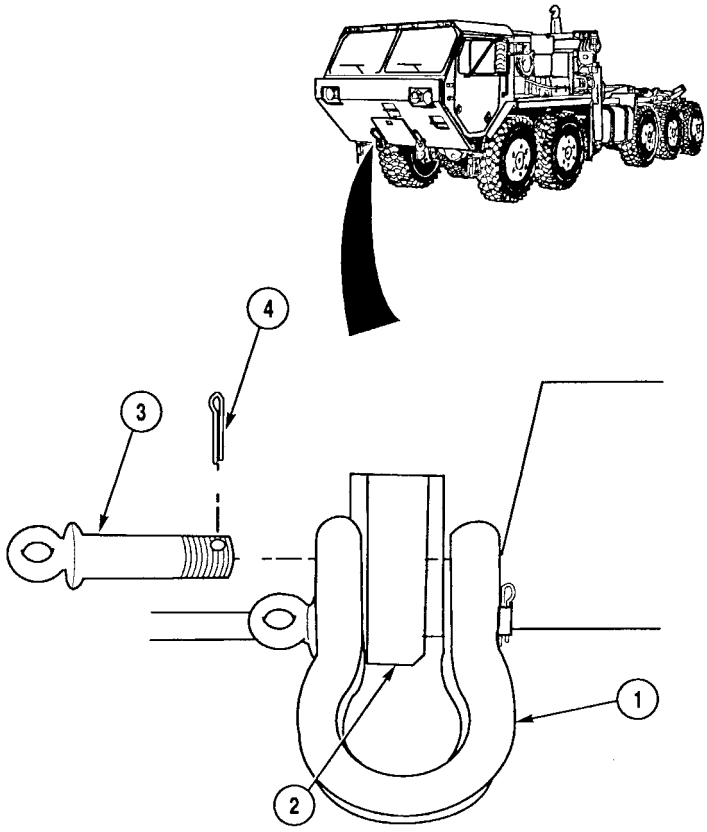
(42) Shut OFF engine (Para 2-23).

(43) Return spare tire to stowage (Para 3-5).

(44) Contact Unit Maintenance for installation of the machine gun mount.

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).

e. Truck Preparation for Rail Transport.



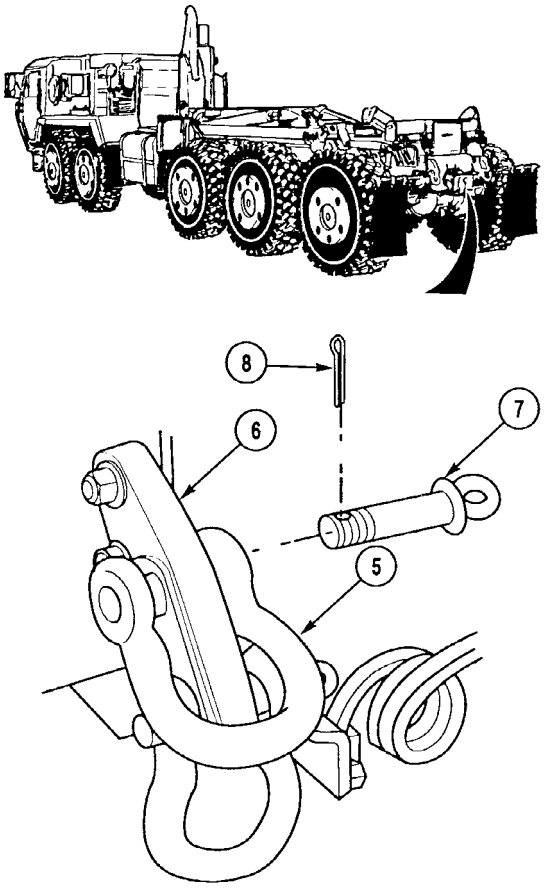
NOTE

Both front shackles are installed the same way. Right side is shown.

(1) Remove four shackles from stowage box and install shackle (1) in upper toweye (2) with clevis pin (3).

(2) Install cotter pin (4) in clevis pin (3) and bend cotter pin (4).

(3) Repeat Steps (1) and (2) for left side.



NOTE

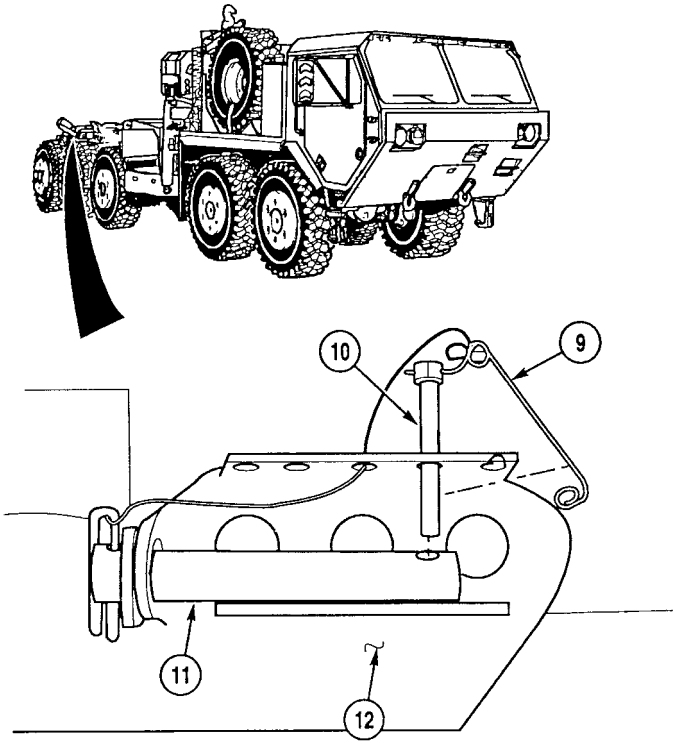
Both rear shackles are installed the same way. Right side is shown.

(4) Install shackle (5) in upper toweye (6) with clevis pin (7).

(5) Install cotter pin (8) in clevis pin (7) and bend cotter pin (8).

(6) Repeat Steps (4) and (5) for left side.

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).



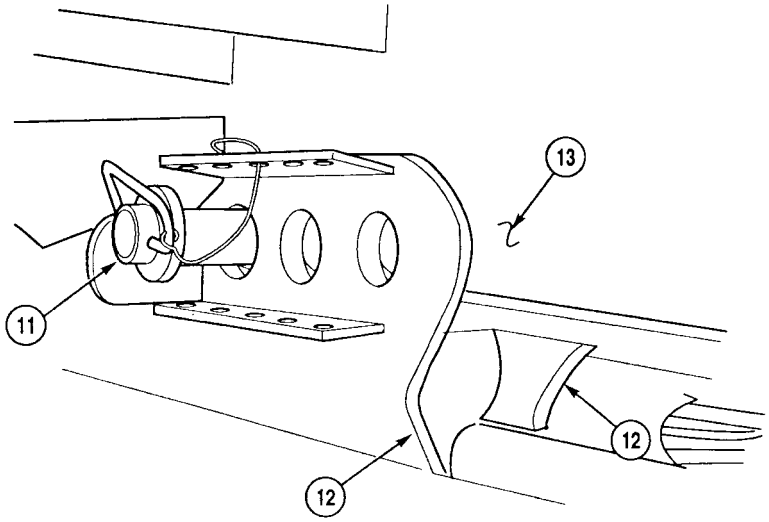
NOTE

- Both hitch pins are installed the same way. Right side is shown.
- Perform Steps (7) through (12) for truck with flatrack.

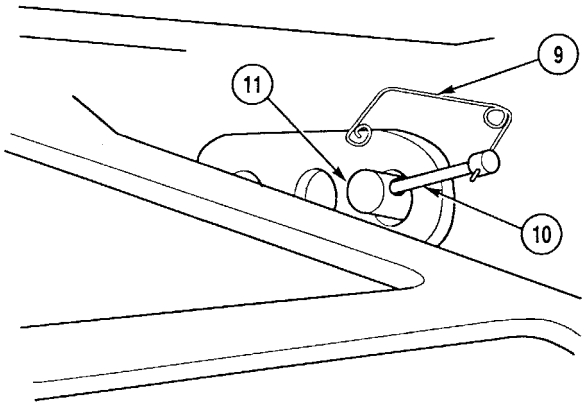
(7) Remove safety pin (9) from lock pin (10).

(8) Remove lock pin (10) from hitch pin (11).

(9) Remove hitch pin (11) from bracket (12).



(10) Install hitch pin (11) through bracket (12) and flatrack main rail (13).



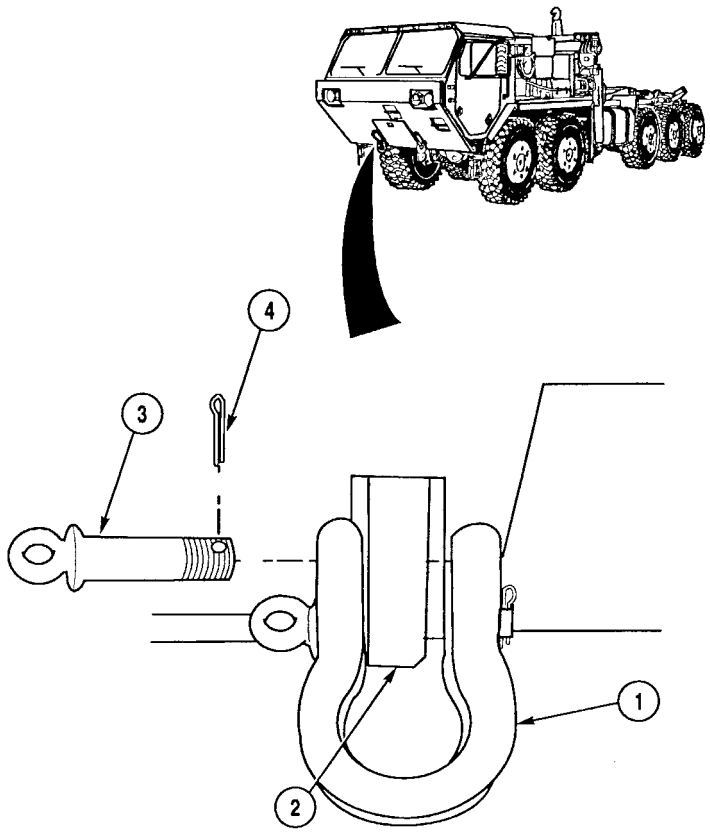
(11) Install lock pin (10) in hitch pin (11).

(12) Install safety pin (9) in lock pin (10).

(13) Repeat Steps (7) through (12) for left side.

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).

f. Truck Preparation After Rail Transport.



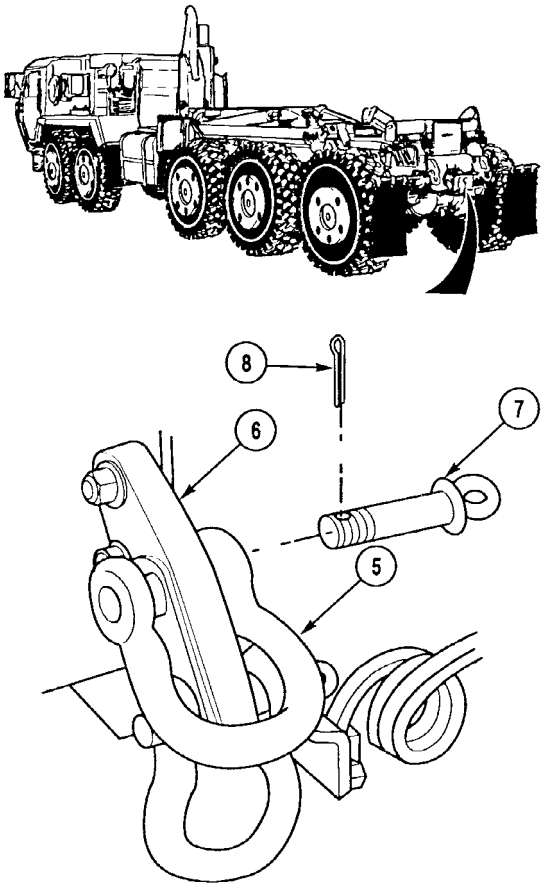
NOTE

Both front shackles are removed the same way. Right side is shown.

(1) Straighten and remove cotter pin (4) from clevis pin (3).

(2) Remove clevis pin (3) and shackle (1) from upper toweye (2). Stow shackle (1) in stowage box.

(3) Repeat Steps (1) and (2) for left side.



NOTE

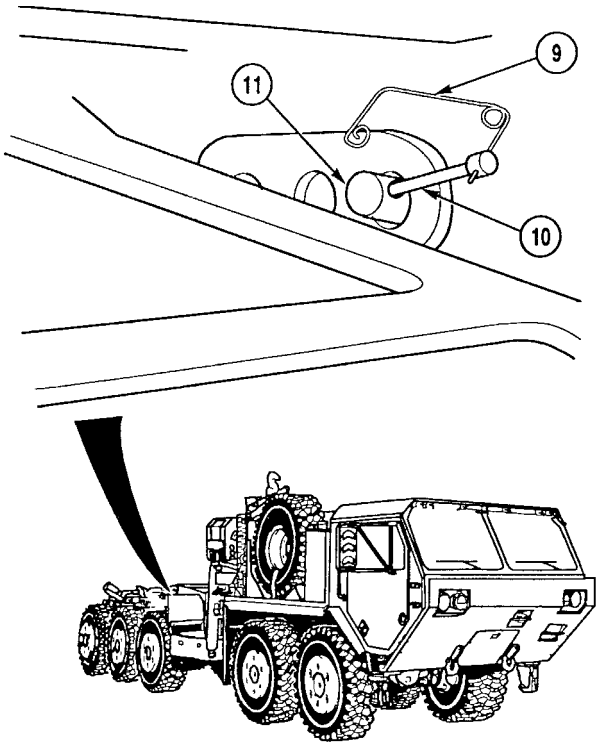
Both rear shackles are removed the same way. Left side is shown.

(4) Straighten and remove cotter pin (8) from clevis pin (7).

(5) Remove clevis pin (7) and shackle (5) from upper toweyes (6). Stow shackle (5) in stowage box.

(6) Repeat Steps (4) and (5) for left side.

2-58. TRUCK PREPARATION FOR TRANSPORT (CONT).

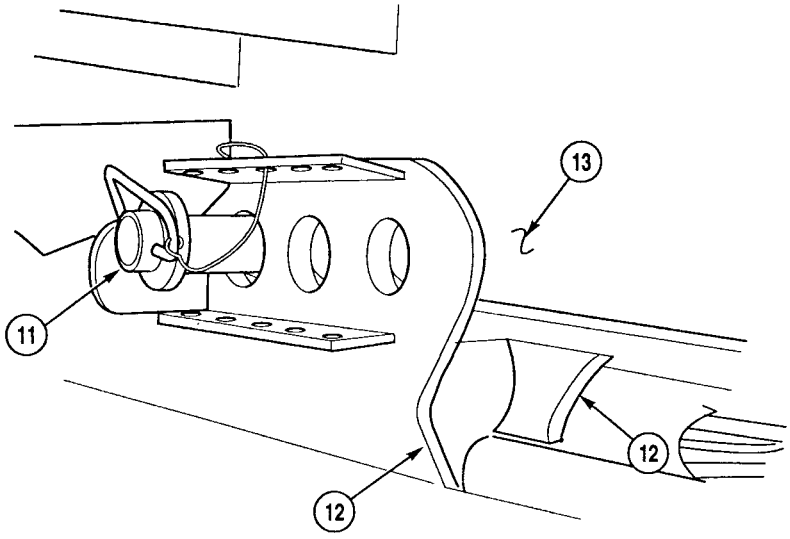


NOTE

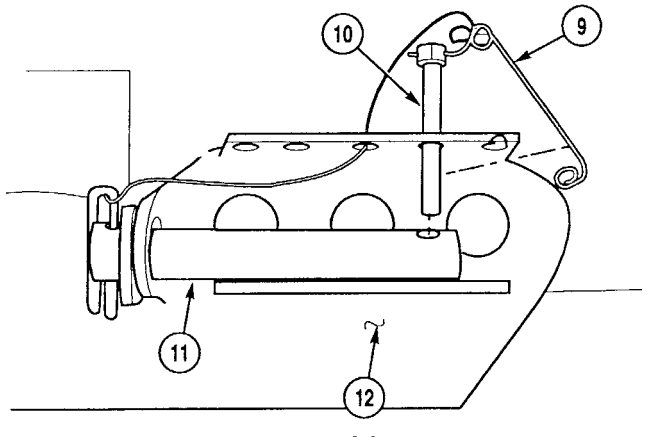
- Both hitch pins are removed the same way. Right side is shown.
- Perform Steps (7) through (12) for truck with flatrack.

(7) Remove safety pin (9) from lock pin (10).

(8) Remove lock pin (10) from hitch pin (11).



(9) Remove hitch pin (11) from bracket (12) and flatrack main rail (13).



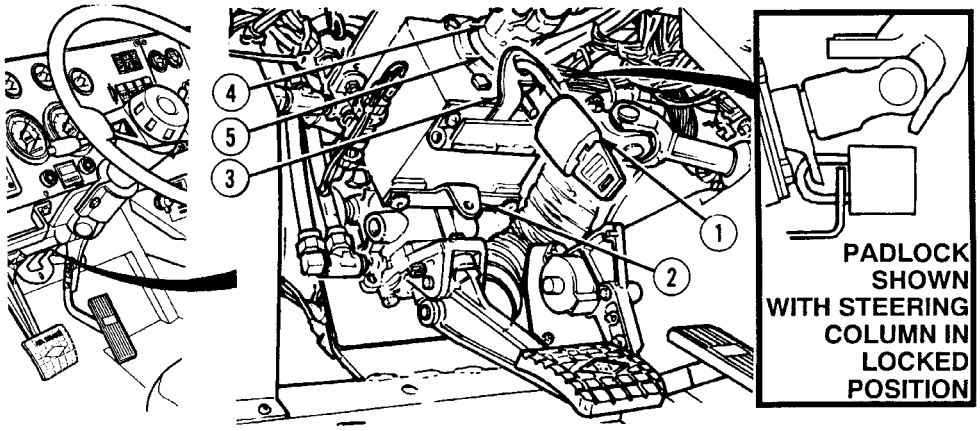
(10) Install hitch pin (11) on bracket (12).

(11) Install lock pin (10) in hitch pin (11).

(12) Install safety pin (9) in lock pin (10).

(13) Repeat Steps (7) through (12) for left side.

2-59. SECURE TRUCK.



a. Lock Truck.

(1) Remove lock (1) from stowage bracket (2) and locking gate (3).

(2) Rotate steering column (4) until locking bracket (5) on steering column (4) points directly downward.

(3) Install the lock (1) through the locking bracket (5).

(4) Rotate locking gate (3) upwards until lock can be installed through locking gate.

(5) Lock the lock (1).

b. Unlock Truck.

(1) Unlock the lock (1).

(2) Remove the lock (1) from the locking pin (3) and the locking bracket (5) on the steering column (4).

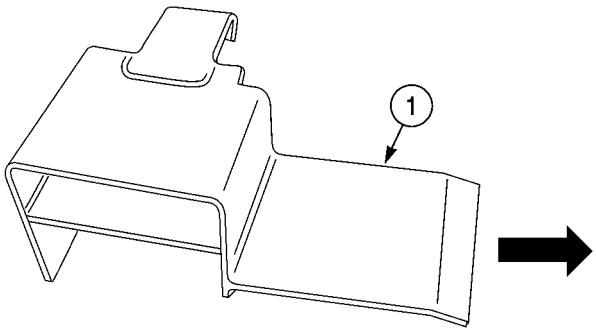
(3) Rotate the locking gate (3) forward until it is flush against the stowage bracket (2).

(4) Install the lock (1) through the locking pin (3) and stowage bracket (2).

(5) Lock the lock (1).

2-60. STACKING/LOADING M3 CROP ON PLS TRAILER.

a. Stacking/Loading and Unstacking/Unloading.



NOTE

- Procedures for stacking and unstacking CROPs on PLS truck or trailer are the same.
- Refer to Para 2-6 for procedures to load and unload CROP to truck or trailer using Load Handling System (LHS).
- Once CROPs are stacked on PLS truck, they are off-loaded onto PLS trailer using the following procedures.

(1) Remove left and right CROP loading ramp from their storage location on PLST.

CAUTION

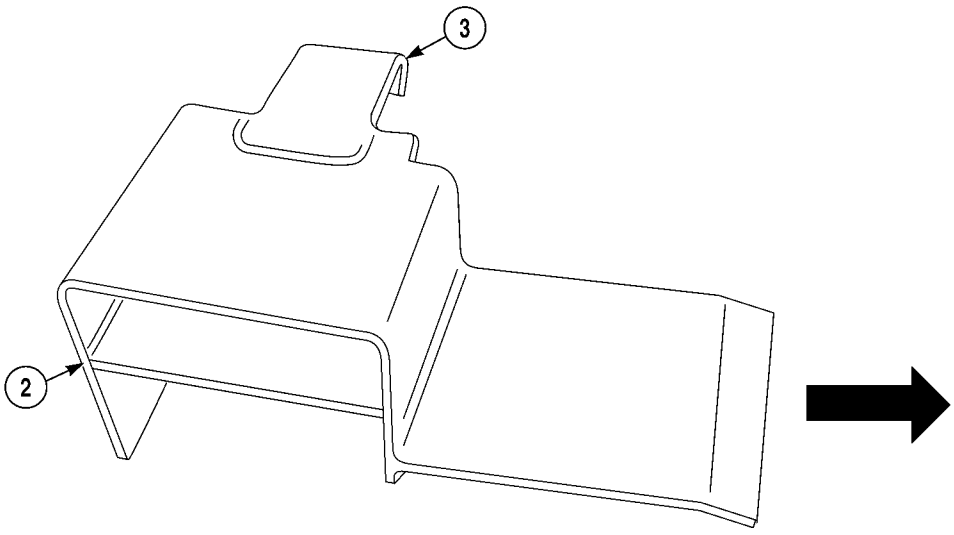
- There are both left side and right side CROP loading ramps. For proper operation, they must be engaged on proper side.
- To ensure proper engagement and operation of CROP loading ramps, the following installation instructions must be followed.

NOTE

Perform Steps (2) and (3) to secure right side part of CROP loading ramps to right rear corner of trailer frame bed.

(2) Position CROP loading ramps with sloped portion (1) facing forward on trailer frame bed, toward trailer tongue.

2-60. STACKING/LOADING M3 CROP ON PLS TRAILER. (CONT).



(3) With squared back portion (2) of CROP loading ramp flush against and contacting trailer stops, engage hook portion (3) over inboard trailer guide rail.

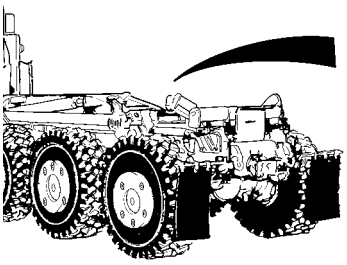
(4) Repeat Steps (3) and (4) for left side CROP loading ramp.

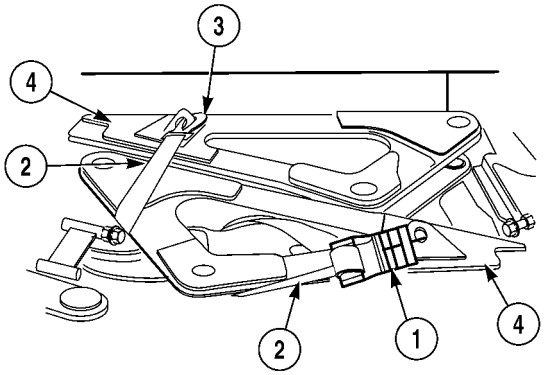
(5) Ensure both right side and left side CROP loading ramps are properly positioned.

(6) Refer to Para 2-29 and off-load CROPs from PLS truck.

2-61. HOOK ARM EXTENSION UNSTOW/STOW.

a. Unstow.





NOTE

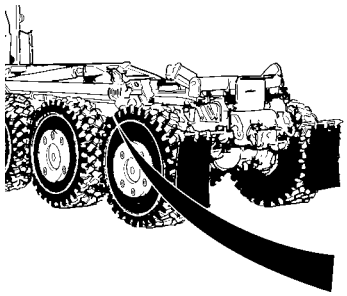
Non-Container Handling Unit (CHU) equipped truck is shown for clarity. Procedures for CHU and Non-CHU trucks are identical, except on CHU truck hook arm extension fits against outside of CHU bracketry.

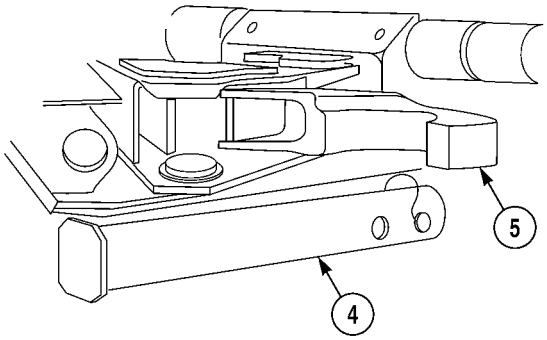
(1) Release ratchet (1) to remove tension on strap (2).

NOTE

Prior to removing strap, note how strap is routed around hook arm extension.

(2) Disconnect ratchet (1) and quick release fitting (3) from truck (4) and remove strap (2).

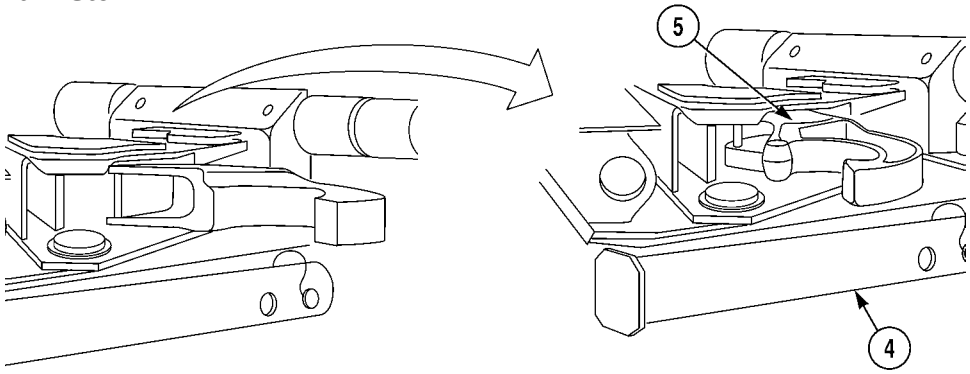




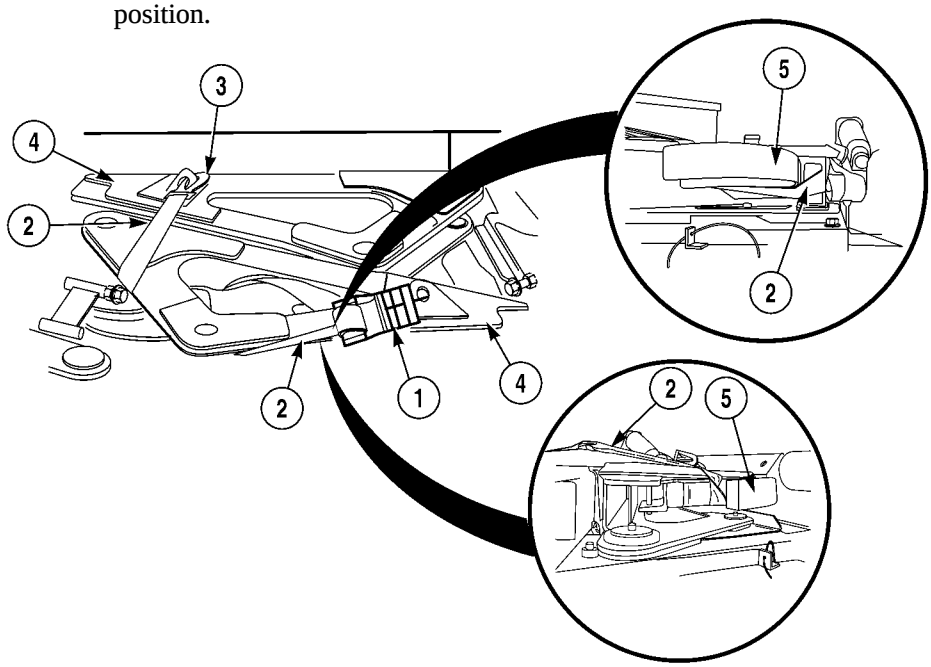
(3) Slide hook arm extension (5) from truck (4).

2-61. HOOK ARM EXTENSION UNSTOW/STOW (CONT).

b. Stow.



(1) Position hook arm extension (5) on rear of truck (4) and slide into stowed position.



NOTE

Position strap in position as noted during unstow.

(2) Route strap (2) under and around hook arm extension (5) and position ratchet (1) and quick release fitting (2) at attaching points.

(3) Connect quick release fitting (3) and ratchet (1) to truck.

(4) Tighten strap (2) with ratchet (1) until hook arm extension is secured to truck.

2-62. LOADING/UNLOADING ISO CONTAINER WITH M3 CROP FROM PLS TRUCK.

a. Loading.

WARNING

- One CROP weighs 3,800 lbs. (1,724 kg). Six CROPs weigh 22,800 lbs. (10,342 kg). Ensure all personnel stand clear of CROP when CROP is being moved. Failure to comply may result in severe injury or death to personnel.
- Always lift stack of CROPs by connecting lifting device to bottom CROP. Failure to comply may result in severe injury to personnel or damage to equipment.

CAUTION

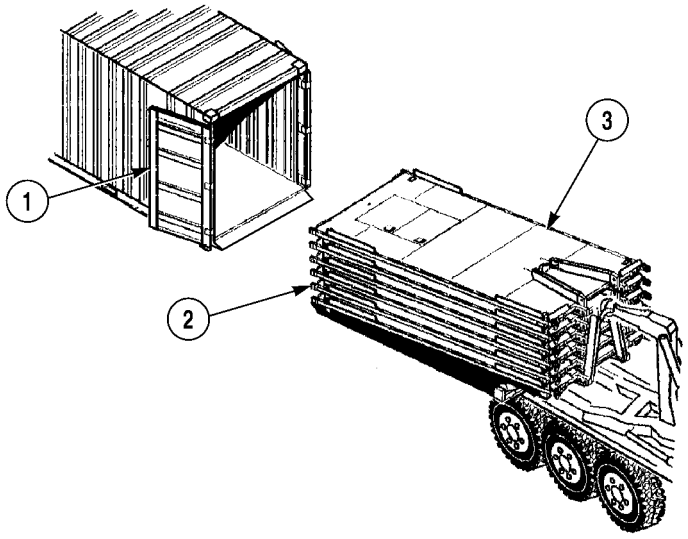
- Attempting to load stack of CROPs or loaded CROP in ISO container requires extreme care to prevent damage to equipment. Clearance between ceiling of ISO container and top of load and inside walls of ISO container and each side of CROP is designed to be close, requiring at least one ground guide to assist during difficult insertion procedure.
- Ensure web straps securing stack of CROPs are removed prior to insertion into ISO container. Failure to comply may result in damage to web straps during insertion procedure.

NOTE

- Stack of six CROPs is maximum that can be loaded into ISO container.
- The use of ramps during loading/unloading process is optional.

(1) Unstow hook arm extension from PLS truck. Refer to Para 2-61.

2-62. LOADING/UNLOADING ISO CONTAINER WITH M3 CROP FROM PLS TRUCK (CONT'D).



(2) Prepare ISO container by opening ISO container doors (1) and securing them in open position.

(3) Ensure web straps securing stack of CROPs are removed prior to insertion into ISO container.

(4) Position rear of PLS truck approximately 15 ft. (4.6 m) from ISO container door opening.

(5) Offload CROP (3) until bottom CROP rollers (2) are approximately 12 in. (30 cm) from ground. Refer to Para 2-29 for procedures to load and unload CROP to truck or trailer using Load Handling System (LHS).

WARNING

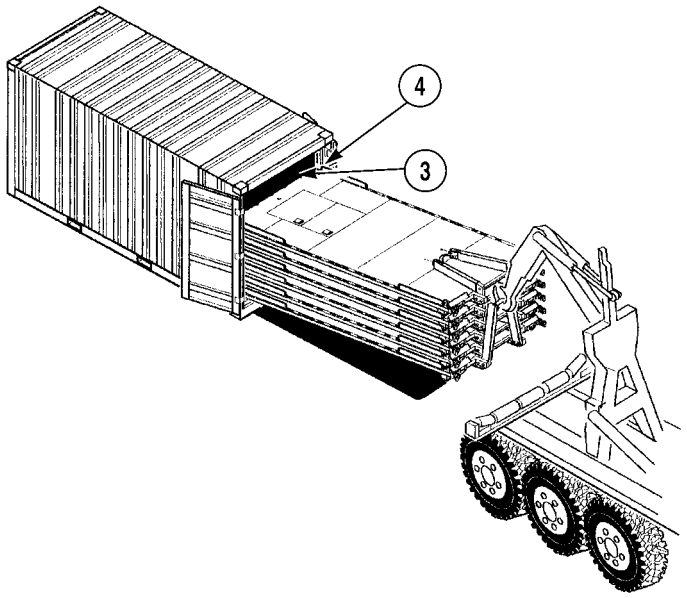
Do not stand between CROP and ISO container. Ensure all personnel stand clear of CROP when CROP is being moved. Failure to comply may result in severe injury or death to personnel.

CAUTION

M3 CROP is designed to fit into door opening of 91 in. (231 cm). If container is more than 10 years old, door opening may not be wide enough. DO NOT attempt to force CROP into containers with door openings less than 91 in. (231 cm).

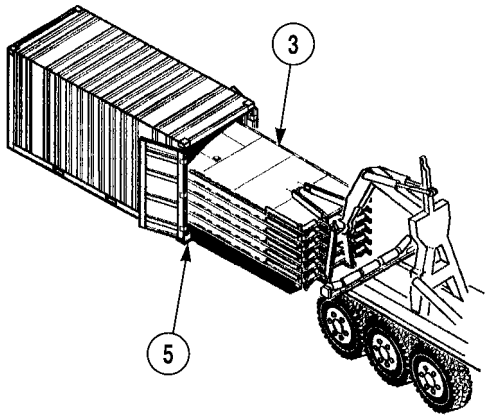
NOTE

If CROP load is too tall to insert load into ISO container according to Steps (6) and (7), perform Steps (8) through (10), then proceed to Step (11).

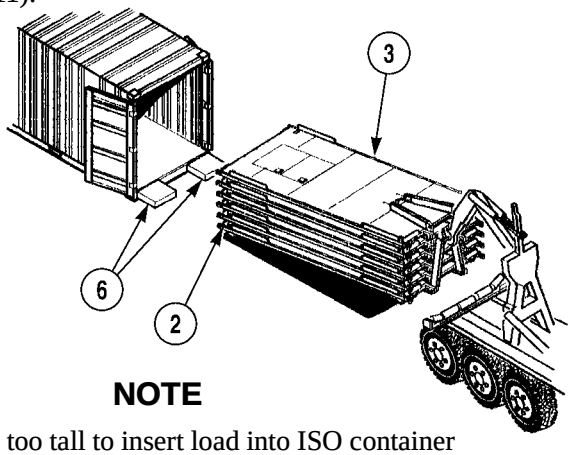


(6) Using ground guide to assist, drive PLS backward and carefully insert rear of CROP (3) into door opening of ISO container approximatley 24 in. (61 cm). Several attempts to insert CROP (3) may be required because ISO container door opening (4) is only slightly wider than CROP.

2-62. LOADING/UNLOADING ISO CONTAINER WITH M3 CROP FROM PLS TRUCK (CONT'D).



(7) Using extreme caution to ensure rollers remain inside ISO container (5), continue offloading stack of CROPs (3), allowing PLS truck to be pushed forward or by alternately driving forward several feet, stopping, and offloading more of the CROP into ISO container, then repeating procedure until front of CROP (3) is approximately 12 in. (30 cm) from ground. Proceed to Step (11).



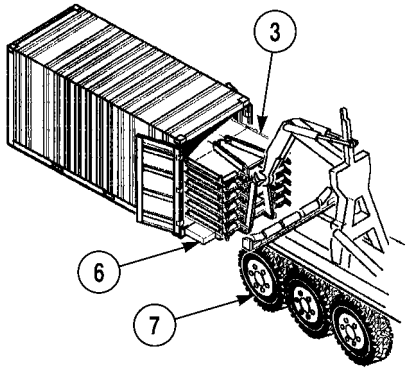
NOTE

If CROP load is too tall to insert load into ISO container according to Steps (6) and (7) above, perform Steps (8) through (10) below; otherwise proceed to Step (11).

(8) Position ISO container loading platforms (6) on ground, in front of and against ISO container door opening so CROP rollers (2) can roll up platforms (6) into ISO container.

(9) Offload CROP (3) until rollers (2) are grounded in front of ISO container loading platforms (6) and front of CROP (3) is approximatley 12 to 18 in. (30-46 cm) from ground.

(10) With the aid of an assistant as ground guide, use PLS truck to push CROP (3) up loading platforms (6) and into ISO container.



WARNING

Closely observe stack of CROPs during this part of offloading to ensure CROPs do not come in contact with top of ISO container door opening or inside walls of ISO container. Failure to exercise extreme caution during insertion may result in damage to ISO container or CROP.

(11) With ground guide watching closely, drive PLS truck backward very slowly and push CROP (3) into ISO container.

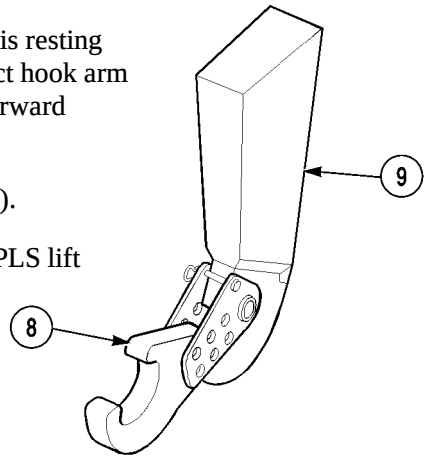
(a) If CROP appears to be out of alinement inside ISO container, stop backward movement and pull CROP forward several feet, drive PLS truck backward to realine CROP.

(b) After CROP has been properly realined inside ISO container, again drive PLS truck backward very slowly and push CROP into ISO container until CROP front twist lock housings are inside ISO container, but before PLS truck rear wheels (7) contact loading platforms (6).

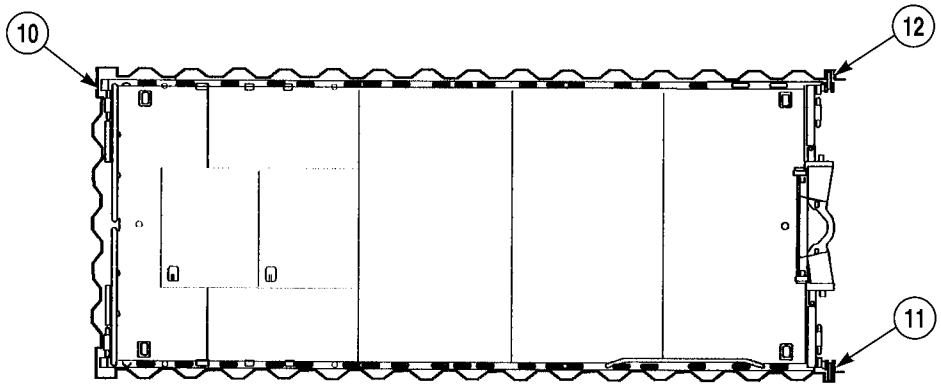
(12) Lower PLS hook arm until CROP is resting on ISO container floor. Disconnect hook arm from CROP, and pull PLS truck forward approximately three ft. (.9 m).

(13) Remove both loading platforms (6).

(14) Attach hook arm extension (8) to PLS lift hook (9), refer to Para 2-61.

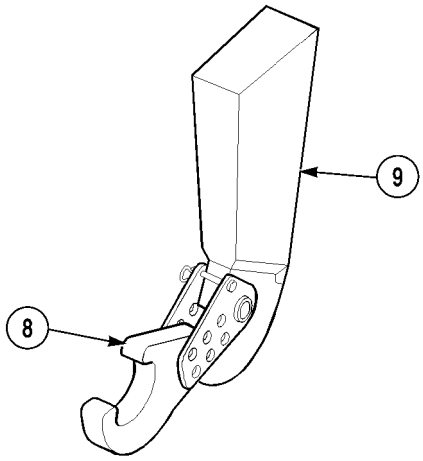


2-62. LOADING/UNLOADING ISO CONTAINER WITH M3 CROP FROM PLS TRUCK (CONT'D).

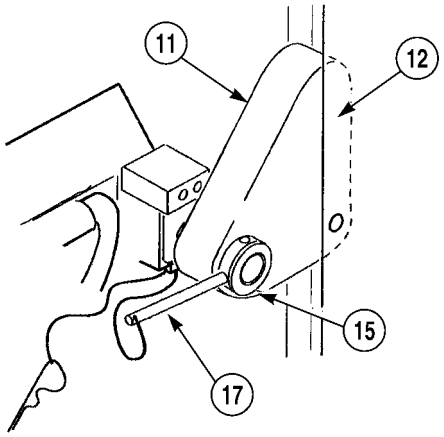


(15) Connect hook arm extension to CROP, then lift and push CROP into ISO container until CROP rear bumpers (10) firmly contact front of ISO container and bracing mechanism cams (11) can be positioned into shoring slots (12) on both sides of ISO container door.

(16) Disconnect hook arm extension from CROP and drive PLS truck forward so ISO container doors can be closed.



(17) Remove and stow hook arm extension assembly (8) from PLS lift hook (9), refer to Para 2-61.



NOTE

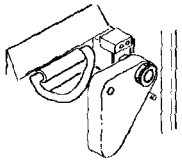
Each of two bracing mechanisms consist of free-to-rotate cam positioned between two collars welded to threaded rod. Front adjustment collar is equipped with holes, into which pin can be inserted to provide leverage to turn adjustment collar and adjust cam position fore and aft, enabling it to engage shoring slot. Same pin is used to secure cam after it has been engaged in shoring slot.

(18) Rotate cams (11) in left and right bracing mechanisms until shoring slots (12) on both sides of ISO container are engaged.

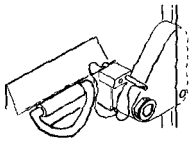
(19) If cam (11) will not engage shoring slot (12), insert pin (17) into adjustment collar (15) and turn, adjusting cam (11) forward or aft until cam (11) will engage shoring slot (12).

NOTE

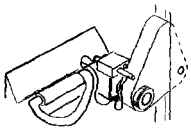
Depending upon CROP distance from shoring slots, cams will engage in one of two positions depicted below as Nominal Position and Minimum Position. If required, use forklift to position CROP so either Nominal or Minimum position can be achieved.



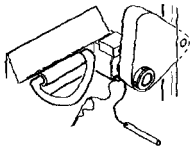
NON-USE STOWED



NOMINAL USE

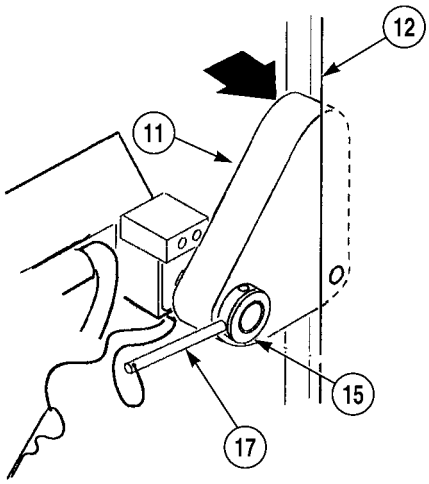


MINIMUM USE

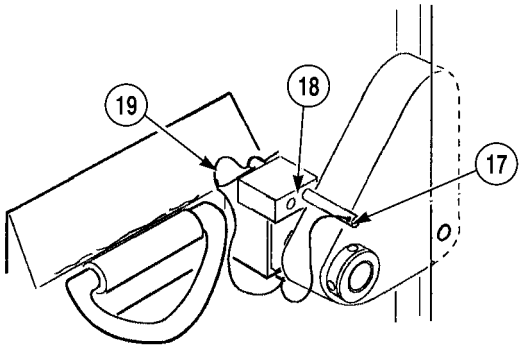


UNACCEPTABLE POSITION FOR EITHER SIDE

2-62. LOADING/UNLOADING ISO CONTAINER WITH M3 CROP FROM PLS TRUCK (CONT'D).



(20) Using pin (17), turn adjustment collar (15) until cam (11) is pushed positioned tight against front of shoring slot (12).



NOTE

Outside hole is preferred in Step (20). Pin ensures that cam cannot be dislodged during transit.

(21) Insert pin (17) into one of the two holes in cam securing block (18).
(22) Insert hitch pin clip (19) into pin (17).
(23) If stack of CROPs is the load, repeat Steps (18) through (22) on the bottom CROP and at least every other CROP in stack.
(24) Close and secure ISO container doors.

CHAPTER 3

MAINTENANCE INSTRUCTIONS

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Section I. LUBRICATION INSTRUCTIONS

3-1. INTRODUCTION.

Refer to Appendix G for lubrication procedures for the truck.

Section II. TROUBLESHOOTING PROCEDURES

3-2. TROUBLESHOOTING INTRODUCTION.

Table 3-1 lists common malfunctions that you may find with your equipment. Perform the tests, inspections and corrective actions in the order they appear in the table. This table cannot list all malfunctions that may occur, all tests or inspections needed to find the fault or all corrective actions needed to correct the fault. If a malfunction is not listed or actions listed do not correct the fault, notify your supervisor.

3-3. TROUBLESHOOTING SYMPTOMS.

To quickly find a troubleshooting procedure, use the Malfunction Index. Table 3-1 contains the operator troubleshooting steps.

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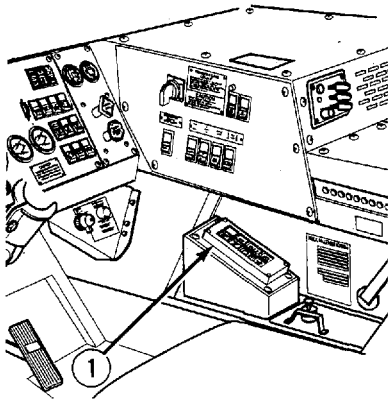
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Table 3-1. Troubleshooting

Malfunction Test or Inspection Corrective Action

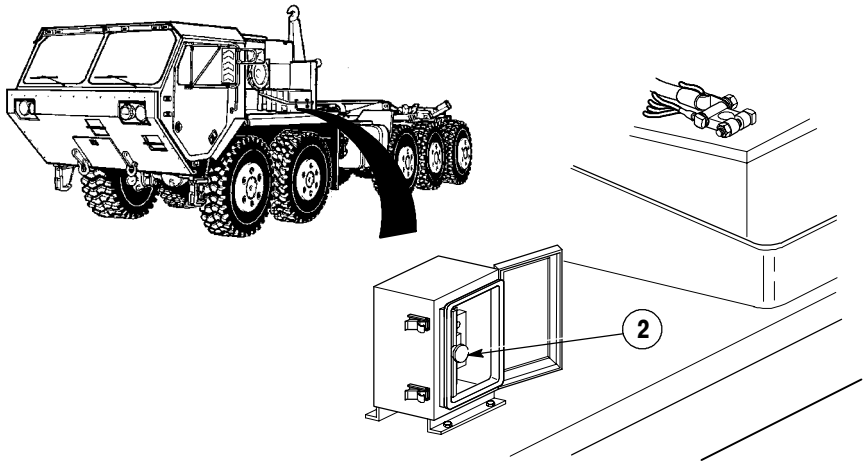
ENGINE

1. FAILS TO CRANK WHEN ENGINE START SWITCH IS TURNED TO START POSITION.



Step 1. Check that transmission range selector (1) is in NEUTRAL (N).

- Position transmission range selector in NEUTRAL (N).



Step 2. Check if batteries are disconnected at battery disconnect switch (2), if equipped.

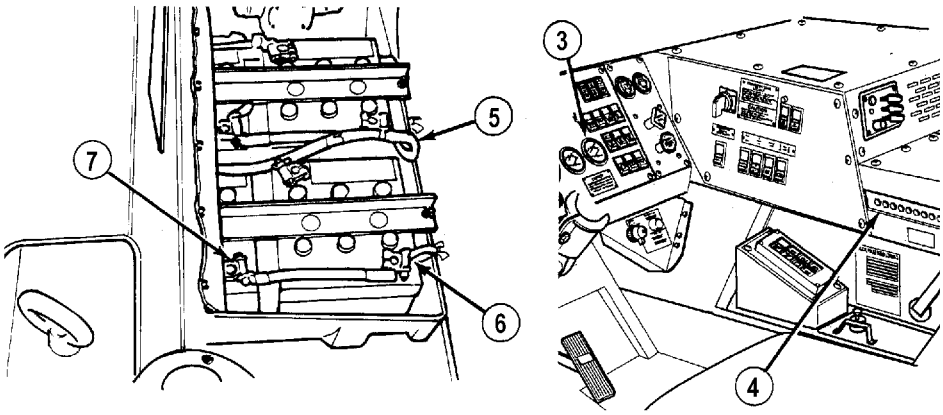
- Push battery disconnect switch in.

Table 3-2. Troubleshooting

Malfunction Test or Inspection Corrective Action

ENGINE

1. FAILS TO CRANK WHEN ENGINE START SWITCH IS TURNED TO START POSITION (CONT).



Step 3. Check 24v voltmeter gage (3) for proper voltage range.

- 24v voltmeter gage should read 22 to 28 volt. If not, notify Unit Maintenance.

Step 4. Check if three DDEC circuit breakers (4) have been tripped.

- Reset breakers and try again. If breakers trip, notify Unit Maintenance.

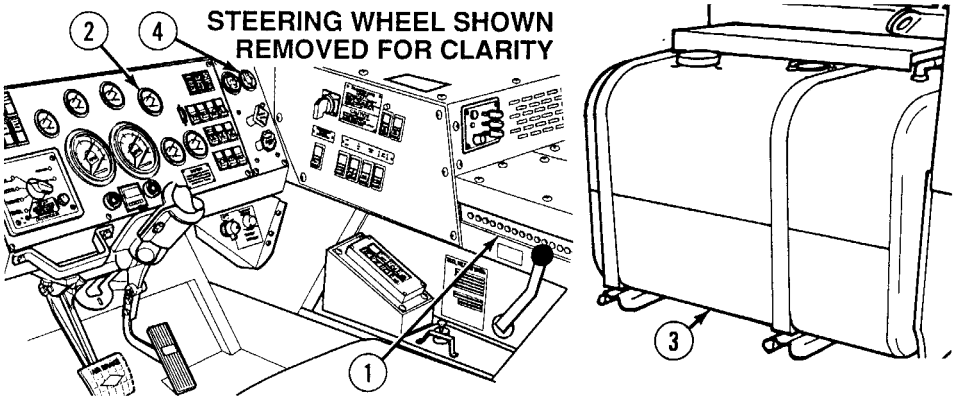
Step 5. If engine fails to crank, check for dirty battery cable connections (5) or loose or broken battery cables (6) or posts (7). If battery connections are dirty, or cable or posts are damaged, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

ENGINE (CONT).

2. CRANKS BUT FAILS TO START.



Step 1. Check if three DDEC circuit breakers (1) have been tripped.

- Reset breakers and try again. If breakers trip again, notify Unit Maintenance.

Step 2. Check fuel shut off valve behind wet tank in air dryer assembly to be sure it is open.

- If valve is closed, open it.

Step 3. Check indication on fuel gage (2).

Step 4. Visually check fuel level in main fuel tank (3) and auxiliary fuel tank, if equipped.

- If fuel tank(s) are empty, add fuel to tank (Para 2-13), turn on power switch and let electric fuel pump (clicking sound) run 20 minutes to prime fuel system.

Step 5. Check if electric fuel pump is working.

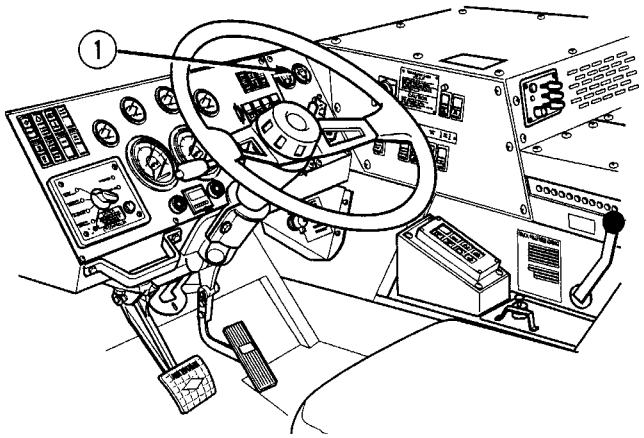
- Turn on power switch and listen for clicking sound at main fuel tank.
- If clicking, go to Step 6.
- If no clicking is heard, notify Unit Maintenance.

Step 6. Check air filter restriction indicator (4).

- If indicator shows 17 in. (4.2 kPa) or more, reset filter indicator button. If indicator still shows 17 in. (4.2 kPa) or more, notify Unit Maintenance.
- If condition persists, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action
ENGINE (CONT).
3. STARTS OR RUNS ROUGH AFTER PROPER WARM-UP, DOES NOT DEVELOP FULL POWER OR MAKES EXCESSIVE BLACK EXHAUST SMOKE.



Step 1. Check air filter restriction indicator (1).

- If indicator shows 17 in. (4.2 kPa) or more, reset filter indicator button. If indicator still shows 17 in. (4.2 kPa) or more, notify Unit Maintenance.
- If condition persists, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

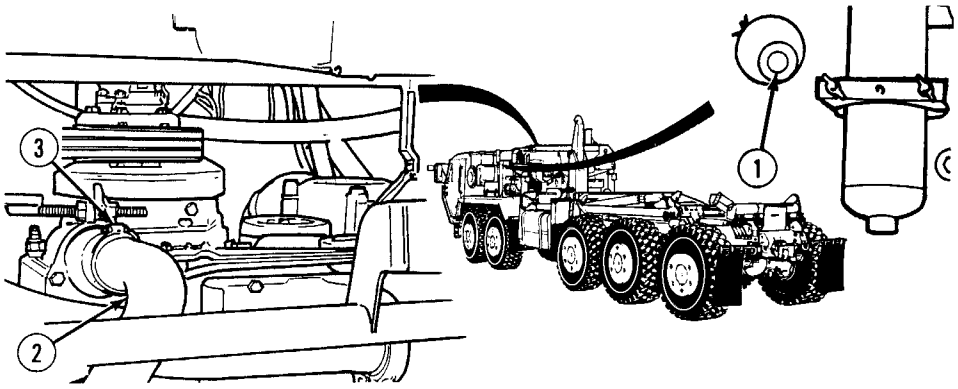
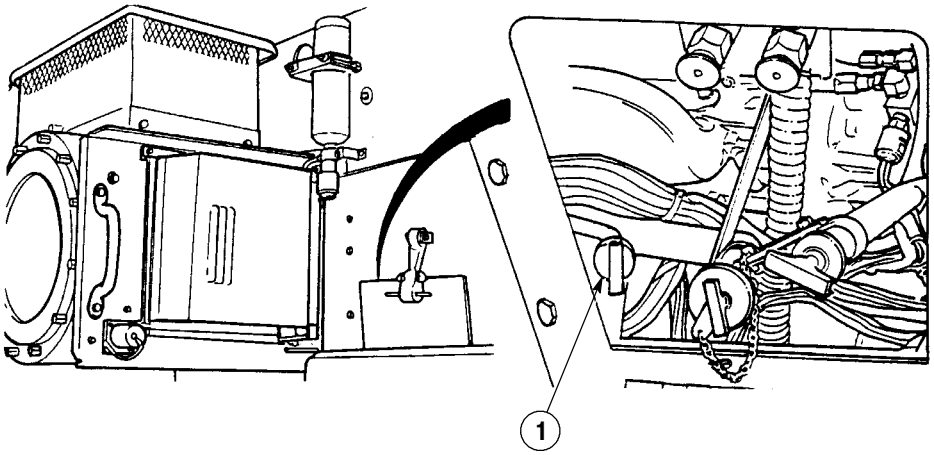
Malfunction Test or Inspection Corrective Action
ENGINE (CONT). **4. ENGINE OVERHEATS, (WARNING BUZZER SOUNDS, CHECK COOLANT LIGHT COMES ON OR WATER TEMPERATURE GAGE READS ABOVE 230 DEGREES).**  **WARNING** Radiator, radiator cap, coolant, and hoses are very hot and pressurized during truck operation. Let radiator cool before checking hoses. Failure to do so may result in serious burns to personnel. Step 1. Check if coolant is visible in sight glass (1). • If coolant is not visible, notify Unit Maintenance. Step 2. Check if radiator grating is obstructed (leafs, paper etc.). • If obstructed clear grating. • If not obstructed, go to Step 3. Step 3. Check for missing or loose radiator cap. Step 4. Open top engine compartment door. Step 5. Check radiator hoses (2), clamps (3) and radiator for leaks. • Tighten loose hose clamps (3). • If radiator or hoses leak, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

ENGINE (CONT).

5. LOW OIL PRESSURE GAGE, BUZZER OR LOW OIL LIGHT INDICATION.



NOTE

Engine oil pressure has three monitoring systems, (oil light, CHECK GAGES light, and oil pressure gage) if two of the three systems indicate a problem, park truck, shut down engine and notify Unit Maintenance. If only one system indicates a problem, and the other two indicate normal, proceed with mission and then notify Unit Maintenance.

Step 1. Check for leaks and engine oil level (1).

- If oil level is low, or oil pressure is less than 40 to 80 psi (276 to 552 kPa) at 1800 to 2100 rpm, or at idle oil pressure is less than 5 psi (34 kPa), or a Class III leak is found, notify Unit Maintenance.

6. EXCESSIVE ENGINE OIL CONSUMPTION.

Step 1. Check underneath truck for Class III leaks.

- If Class III leak is found, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

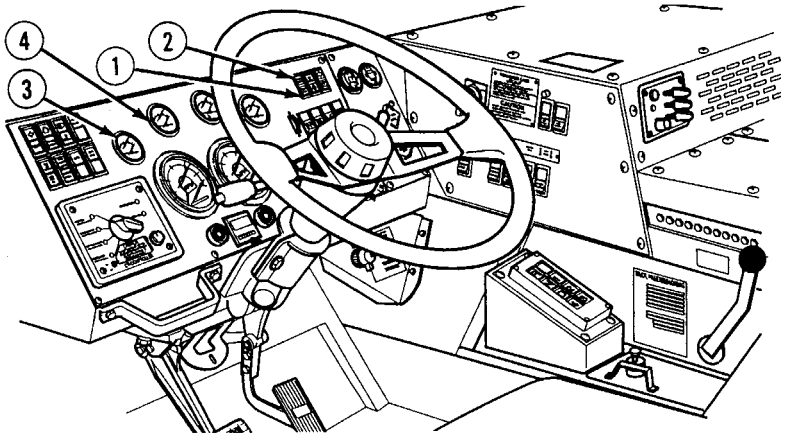
Malfunction Test or Inspection Corrective Action
ENGINE (CONT). **7. ENGINE CHECK ENGINE OR CHECK GAGES LIGHT IS ON.**    Step 1. CHECK GAGES light (1) indicates a potential engine failure (low oil pressure, low coolant, coolant overheating) has occurred. • Check gages and shut down engine. Gages should read as follows: Oil pressure 5 to 10 psi (34 to 69 kPa) at idle; Water Temp gage below 230 degrees (110 C). • Check engine oil level (Para 2-11) if OIL PRESS gage indicates low reading. Check coolant level (Para 2-11) if Water Temp gage indicates high reading. Notify Unit Maintenance if levels are low. Step 2. If CHECK ENGINE light (2) is on, check engine oil pressure gage (3) and water temperature gage (4). If both indicate normal, proceed with mission and then notify Unit Maintenance. If either one does not indicate normal, stop engine immediately and notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

TRANSMISSION

1. NOISY WHEN OPERATING.

Step 1. Check transmission fluid level (Para 2-11).

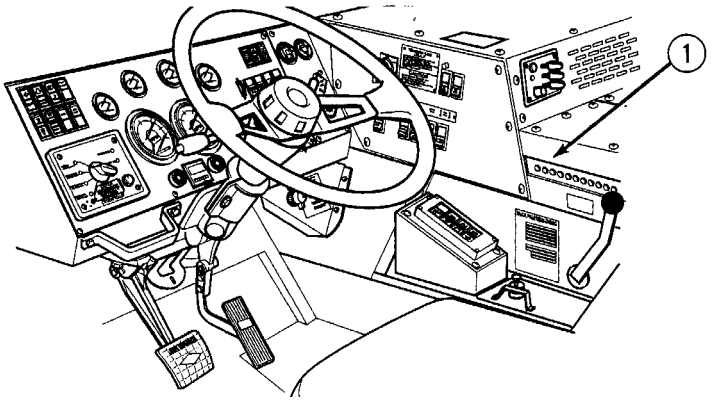
- If fluid level is low or too high, stop engine and notify Unit Maintenance.
- If fluid level is correct and problem still exists, notify Unit Maintenance.

2. TRANSMISSION TEMPERATURE GAGE OR TRANSMISSION CHECK LIGHT INDICATES OVERHEATING DURING NORMAL OPERATION.

Step 1. Check transmission fluid level (Para 2-11).

- If fluid level is low or too high, stop engine and notify Unit Maintenance.
- If fluid level is correct and problem still exists, notify Unit Maintenance.

3. TRANSMISSION WILL NOT SHIFT INTO GEAR OR SHIFT OUT OF GEAR (DO NOT SHIFT LIGHT ON).



Step 1. Check DDEC/TRANS circuit breaker (1) for tripped breaker.

Table 3-1. Troubleshooting - CONT.

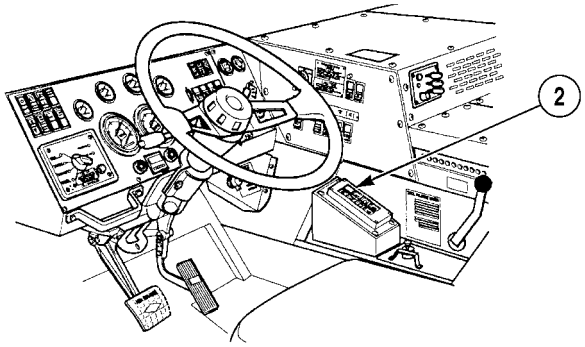
Malfunction Test or Inspection Corrective Action
TRANSMISSION (CONT). **3. TRANSMISSION WILL NOT SHIFT INTO GEAR OR SHIFT OUT OF GEAR (DO NOT SHIFT LIGHT ON) (CONT).**    • Reset breaker and try again. If breakers trip again, notify Unit Maintenance. Step 2. DO NOT SHIFT light (2) illuminates while starting in neutral: • Shut down engine for about five seconds. • Restart engine. Try to select desired range. • If gear range can be selected, continue mission and have transmission checked for codes at mission completion. • If 200 amp alternator without capacitor is installed, voltage peaks can cause DO NOT SHIFT light to illuminate. Notify Unit Maintenance. • If gear range cannot be selected in three attempts, notify Unit Maintenance. Step 3. DO NOT SHIFT light comes on while driving: • Find a safe place to pull over and stop. • Perform all of Step 2. • If DO NOT SHIFT LIGHT (2) still stays on, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

TRANSMISSION (CONT).

4. TRANSMISSION CHECK LIGHT STAYS ON.

Step 1. Check transmission fluid level (Para 2-11).

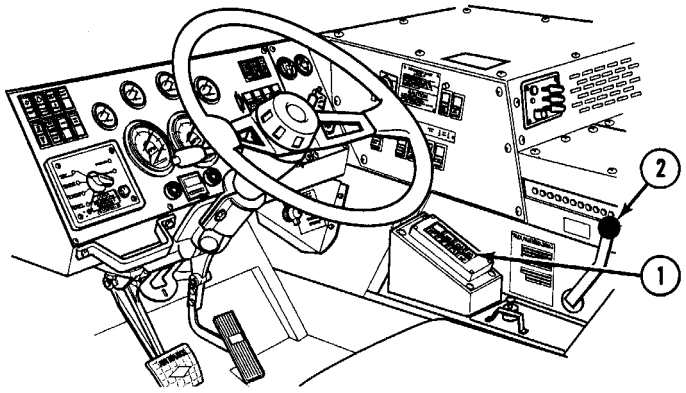
- If fluid level is low, notify Unit Maintenance.
- If fluid level is OK and light still stays on, notify Unit Maintenance.

TRANSFER CASE

1. TRANSFER CASE NOISY.

Step 1. Stop engine and notify Unit Maintenance.

2. TRANSFER CASE SHIFT LEVER WILL NOT SHIFT.



Step 1. Switch transmission range selector (1) from N to D. Apply throttle to roll truck slightly forward and shift transmission from D to N. With truck stopped, shift TRANSFER CASE shift lever (2).

- If transfer still does not shift, go to Step 2.

Step 2. Switch transmission range selector (1) from N to R. Apply throttle control to roll truck slightly backward and shift transmission (1) from R to N. As truck stops, shift TRANSFER CASE shift lever (2).

Table 3-1. Troubleshooting - CONT.

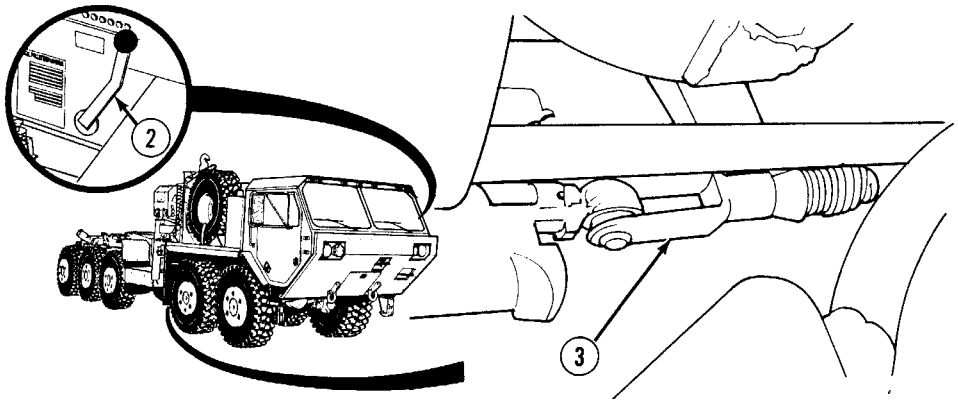
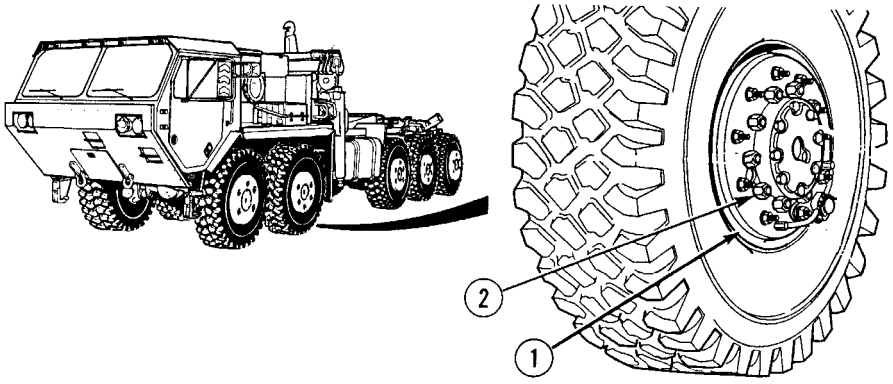
Malfunction Test or Inspection Corrective Action
TRANSFER CASE (CONT). **2. TRANSFER CASE SHIFT LEVER WILL NOT SHIFT (CONT).** **WARNING** Park truck, set parking brake, stop engine and chock tires before doing Step 3 or serious injury or death to personnel could result.    Step 3. Check for mud or debris around shift cable (3). • Clean mud and debris from shift cable and attempt to shift. Step 4. Check that TRANSFER CASE shift lever (2) is fully engaged (Para 2-17). If shift lever still does not stay engaged, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

WHEELS

1. WHEEL WOBBLES.



Step 1. Refer to Para 3-5 and remove wheel covers.

Step 2. Check wheel (1) for loose, missing or broken nuts (2).

- Tighten loose nuts and notify Unit Maintenance to have nuts tightened to torque requirements.

Step 3. Check tire for bulges and inspect for visually bent wheel.

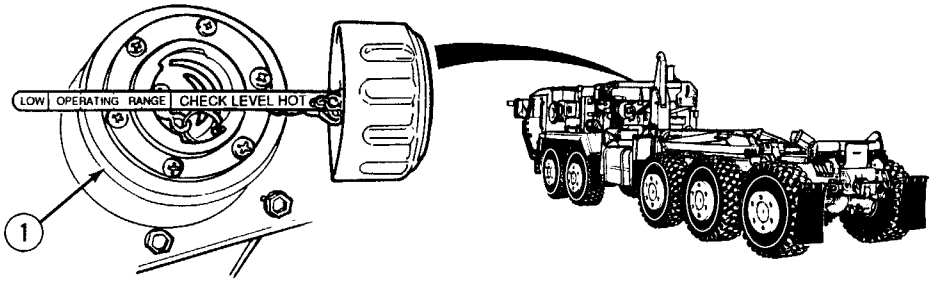
- If wheel is bent or tire has bulges, change wheel and tire assembly (Para 3-5).
- If wheel still wobbles, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

STEERING

1. TRUCK IS HARD TO STEER, SHIMMIES, WANDERS OR PULLS TO ONE SIDE.



WARNING

Tire air pressure must be checked properly or serious injury or death may result.

Step 1. Check all tire pressures (Para 2-57j).

- If tire pressures are low and CTIS will not correct, notify Unit Maintenance.

WARNING

Hot hydraulic oil may cause serious burns.

NOTE

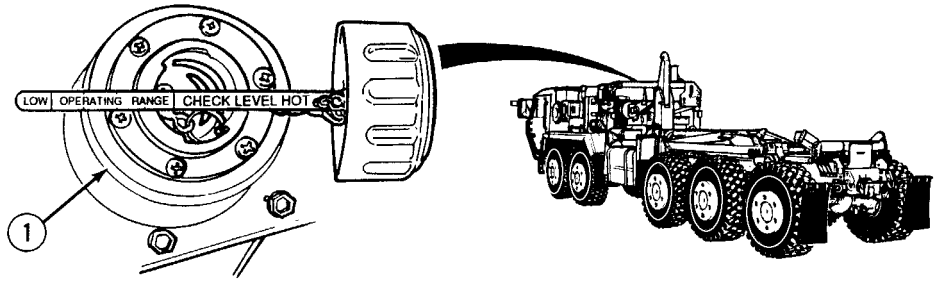
Power steering fluid should be hot when fluid level is checked.

Step 2. Check steering hydraulic reservoir fluid level (1), fluid condition and Class III leaks.

- If fluid is low, foaming or milky in color or Class III leak is evident, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action
STEERING (CONT).



1. TRUCK IS HARD TO STEER, SHIMMIES, WANDERS OR PULLS TO ONE SIDE (CONT).

Step 3. Remove wheel covers (Para 3-5), and check wheels for loose, missing or broken nuts.

- Tighten loose nuts and notify Unit Maintenance to have nuts tightened to torque requirements.

Step 4. If no damage is found and problem persists, notify Unit Maintenance.

2. TRUCK STEERING SLOW TO RESPOND OR INTERMITTENT.

Step 1. Check steering hydraulic reservoir (1) fluid level.

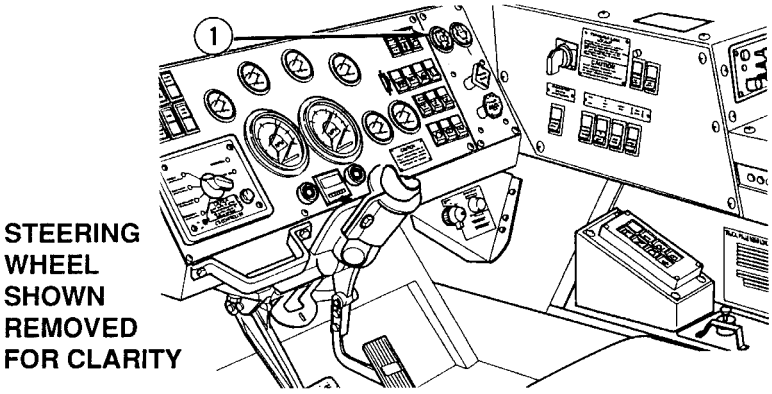
- If fluid level is low, notify Unit Maintenance.

Step 2. Check for loose or leaking steering hydraulic connections and damaged steering hydraulic lines.

- Tighten loose connections. If leak does not stop, notify Unit Maintenance.
- If lines are damaged, notify Unit Maintenance.
- If problem persists, notify Unit Maintenance.

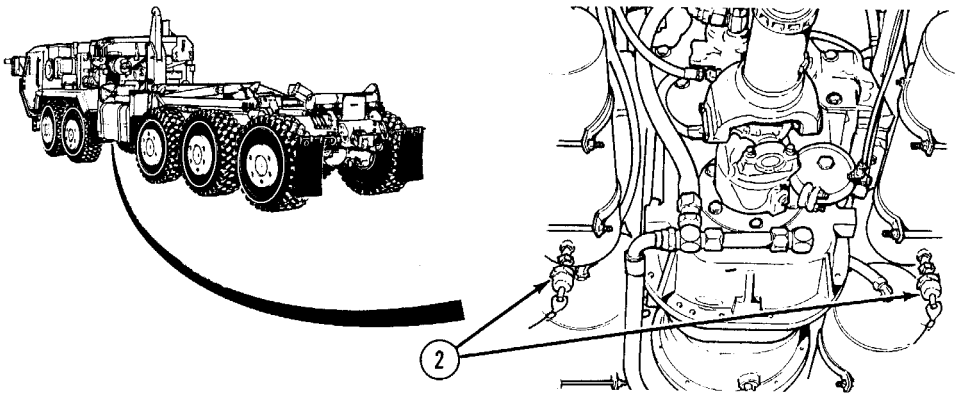
Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action
AIR SYSTEM
1. LOW AIR BUZZER SOUNDS AND LOW AIR INDICATOR LIGHT IS ON.



Step 1. Check air pressure gage (1).

- If gage shows 75 psi (517 kPa) or more, but buzzer and light are still on, notify Unit Maintenance.
- If gage shows below 75 psi (517 kPa) and does not build up after several minutes, go to Step 2.



Step 2. Check that all five air reservoir petcocks (2) are closed.

- Close all petcocks (2). If buzzer and light are still on, go to Step 3.

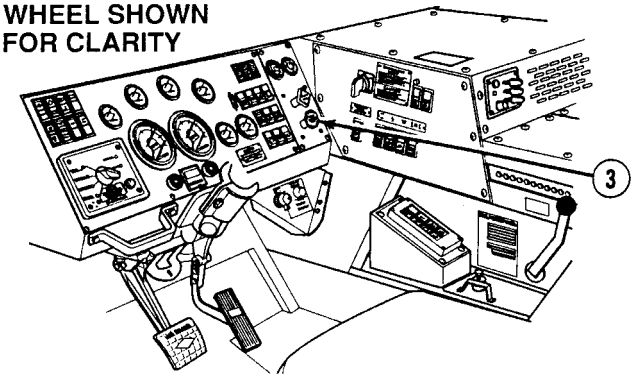
Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

AIR SYSTEM (CONT).

1. LOW AIR BUZZER SOUNDS AND LOW AIR INDICATOR LIGHT IS ON (CONT).

STEERING WHEEL SHOWN REMOVED FOR CLARITY



Step 3. Check that TRAILER AIR SUPPLY control (3) is pulled out (OFF position).

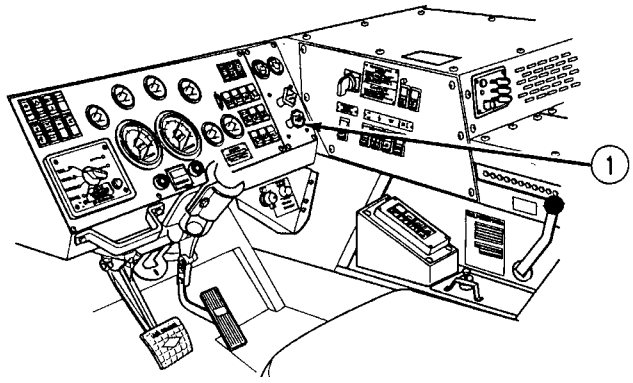
- Pull out TRAILER AIR SUPPLY control (3).

Step 4. Listen for leaks at hoses, fittings and connectors.

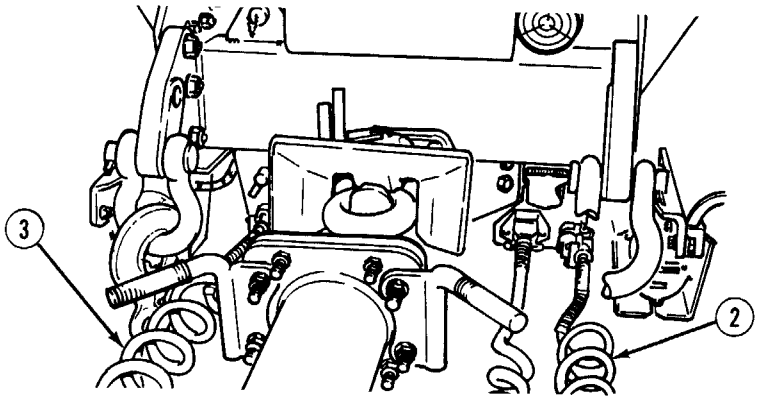
- If leaks are found, tighten connectors and fittings. Notify Unit Maintenance to repair damaged hoses.
- If no leaks are found and problem still exists, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action
AIR SYSTEM (CONT). **2. TRAILER BRAKES DO NOT APPLY WHEN SERVICE BRAKE PEDAL OR PARKING BRAKE IS USED.**



Step 1. Check to make sure that TRAILER AIR SUPPLY control (1) is pushed in (ON position).



Step 2. Check to make sure that service (2) and emergency air hoses (3) are securely and correctly connected (TM 9-2330-385-14).

Step 3. Check to make sure trailer air reservoir petcocks are closed.

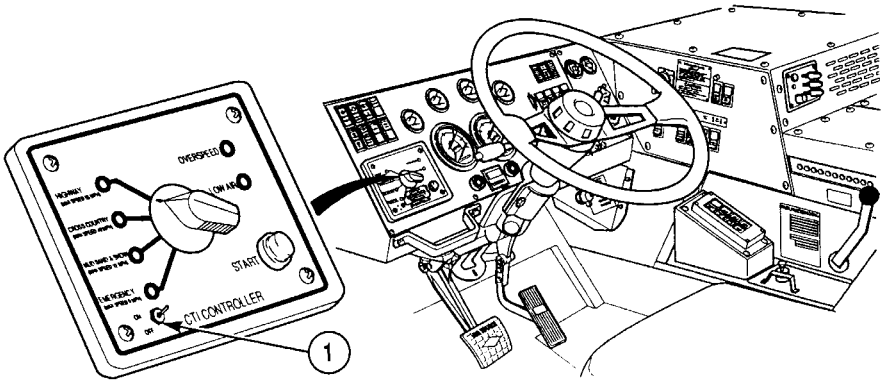
- Close all petcocks.
- If problem still exists, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

AIR SYSTEM (CONT).

3. CENTRAL TIRE INFLATION SYSTEM LOW AIR WARNING LIGHT COMES ON SOLID OR FLASHES, AND AIR PRESSURE IS ABOVE 110 PSI (758 KPA).



WARNING

- Driver must not exceed maximum speed for tire pressure selected or unsafe handling or tire damage may result.
- Tire air pressure must be checked manually or serious injury or death may result.

NOTE

If higher or lower air pressure setting is required, refer to Para 2-57j and manually adjust tire pressure.

Step 1. Move CTIS ON/OFF switch (1) to OFF position, continue mission and notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

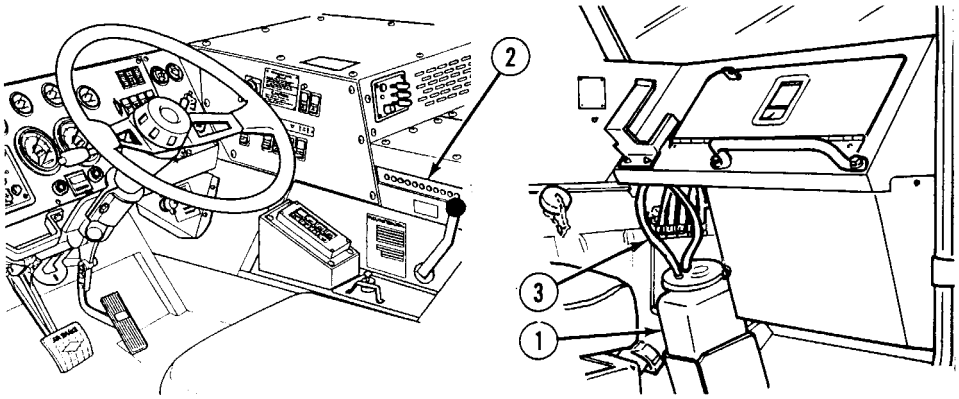
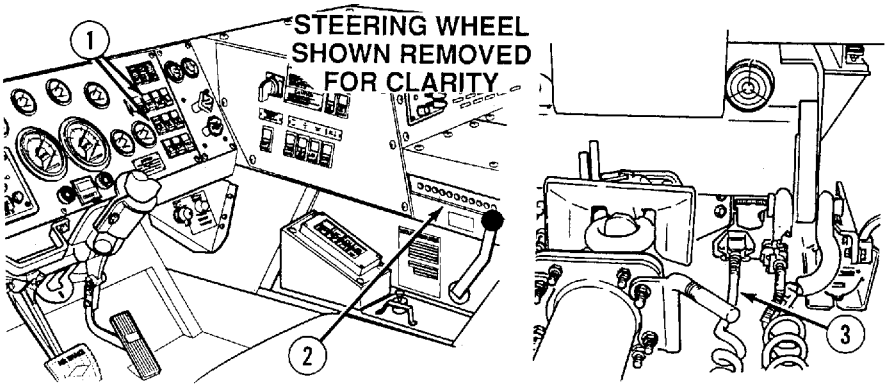
Malfunction Test or Inspection Corrective Action
ELECTRICAL
1. WINDSHIELD WASHER WILL NOT OPERATE.
Step 1. Check washer fluid level in reservoir (1).    • If fluid is low, notify Unit Maintenance. Step 2. Check if windshield wiper circuit breaker (2) is tripped. • If tripped, reset. If breaker trips again, notify Unit Maintenance. Step 3. If washers do not operate, or if only one washer operates, check that hoses (3) are securely connected to reservoir. • If hoses (3) are loose, connect to reservoir. • If hoses (3) are split or broken, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

ELECTRICAL (CONT).

2. ONE OR MORE LIGHTING OR CONTROL CIRCUITS NOT OPERATING.



NOTE

Black out switch must be in OFF position.

Step 1. Check to make sure lighting system controls (1) are in ON or operating position.

Step 2. Check circuit panel for tripped lighting breakers (2). Reset and try again.

- If breaker trips again, notify Unit Maintenance.

Step 3. If trailer is attached and trailer lighting system is not working, check intervehicular connection (3).

- If cable connector is loose, reconnect it.
- If cable is secure and lights still do not operate, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

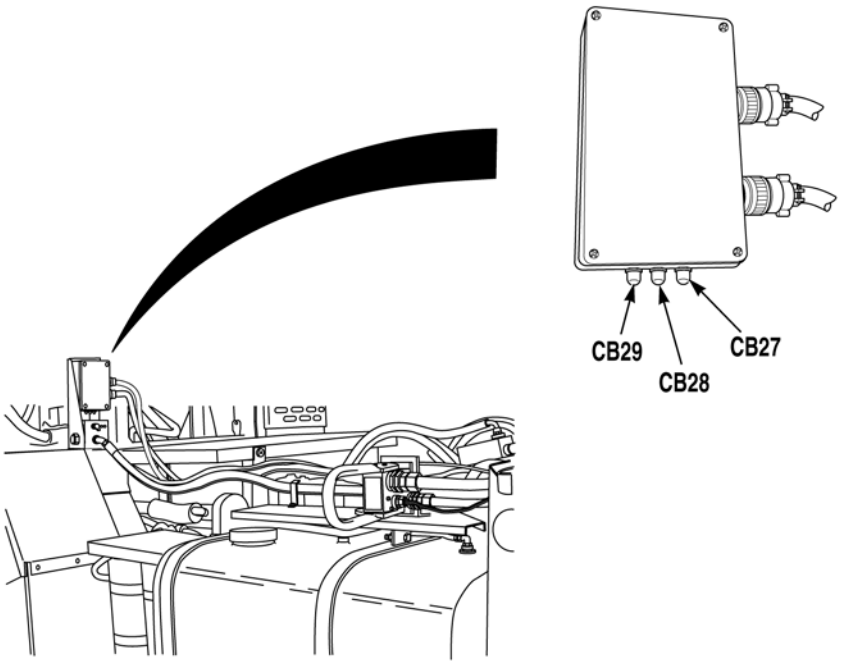
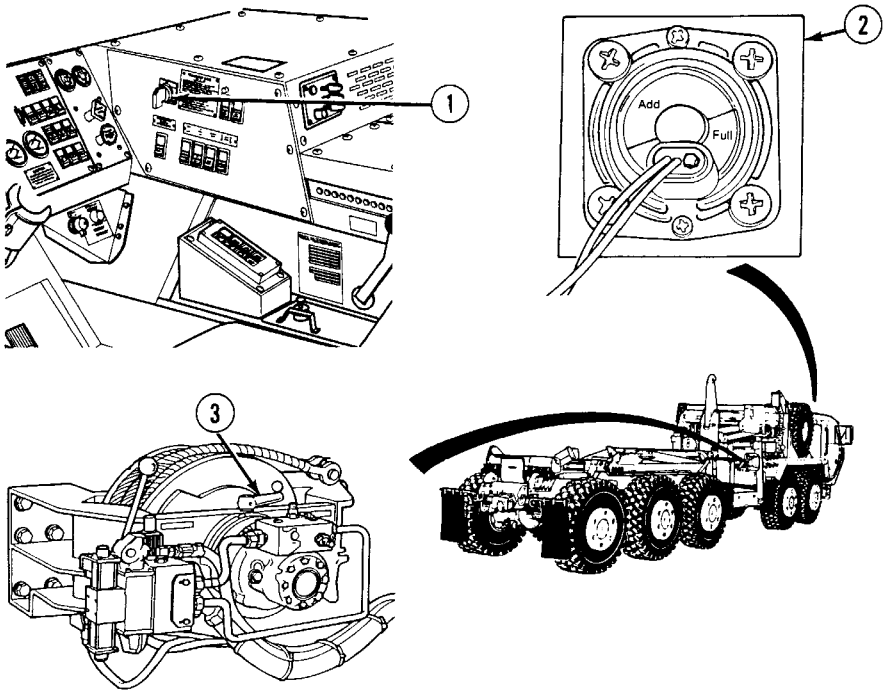
Malfunction Test or Inspection Corrective Action
ELECTRICAL (CONT). **3. INTERFACE WILL NOT OPERATE.**    Step 1. If Interface does not work, reset CB 27, 28, and 29. • If Interface still does not work, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

SELF-RECOVERY WINCH (SRW)

1. SELF-RECOVERY WINCH DOES NOT WORK.



Step 1. Make sure hydraulic selector switch (1) is set to CRANE/SRW.

Step 2. Check for low fluid main hydraulic reservoir (2).

- If fluid level is low, notify Unit Maintenance.
- If fluid level is not low, go to Step 3.

Step 3. Make sure free spooling lever (3) is engaged.

- If lever is not engaged, engage.
- If lever is engaged and SRW still does not function, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

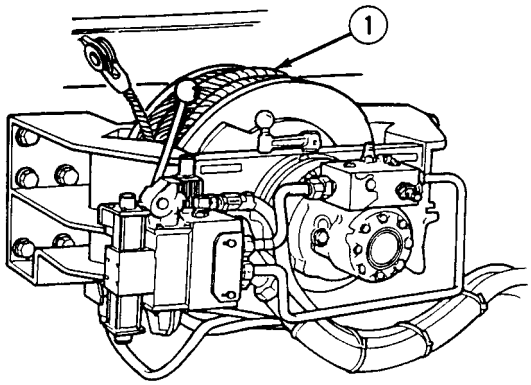
Malfunction Test or Inspection Corrective Action
SELF-RECOVERY WINCH (SRW) (CONT). **2. SELF-RECOVERY WINCH UNUSUALLY NOISY WHEN OPERATING.**    Step 1. Check to make sure cable (1) is not twisted, tangled or causing drum to bind. • Pay out or take up cable as necessary to straighten cable. If winch is still noisy when operating, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

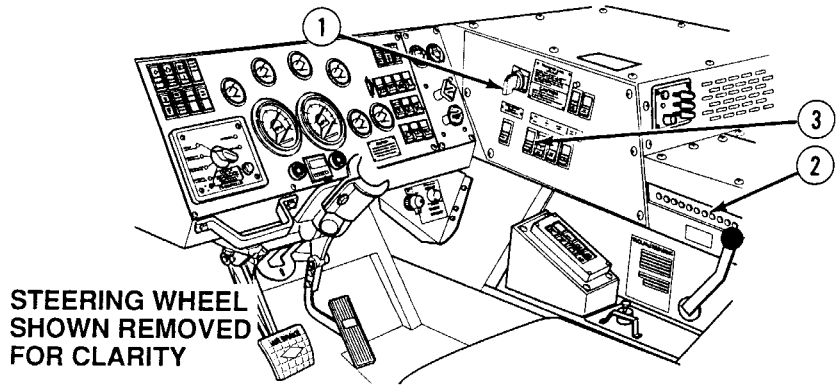
Malfunction Test or Inspection Corrective Action

MATERIAL HANDLING CRANE (MHC)

NOTE

- Possible problems that MHC operators may see are:
  1. Slow or abnormal operation.
  2. MHC will not pick up load.
  3. MHC functions do not operate.
- Possible causes of the problems are:
  1. Low hydraulic oil level.
  2. Low engine speed (slow or abnormal operation).
  3. Load too heavy (will not pick up load).
  4. Outrigger jacks are not properly deployed.
- During cold weather operation, MHC functions will be slow until hydraulic oil has warmed up (Para 2-51).
- Report all problems to Unit Maintenance.

1. MHC WILL NOT OPERATE.



Step 1. Ensure that hydraulic selector switch (1) is in CRANE/SRW position.

Step 2. Check LHS/Crane circuit breaker for tripped breaker (2).

- If breaker is tripped, reset.
- If breaker trips again, notify Unit Maintenance.

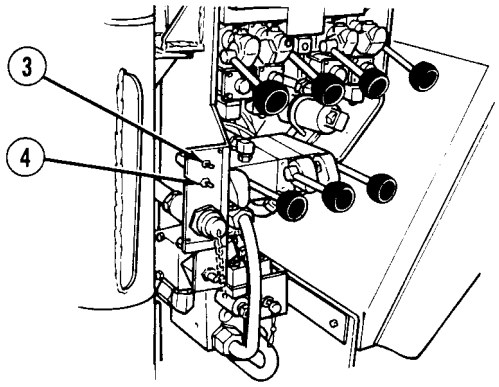
Step 3. Ensure that CRANE/SRW rocker switch (3) (if equipped) is in CRANE position.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

MATERIAL HANDLING CRANE (MHC) (CONT).

1. MHC WILL NOT OPERATE (CONT).



Step 4. Check main hydraulic reservoir for fluid level.

- If level is low, notify Unit Maintenance.
- If level OK, go to Step 5.

Step 5. Ensure that MHC main power ON/Off switch (3) is in ON position.

NOTE

If high idle does not work, but is required for mission, remove chock block from stowage and place on throttle control to achieve desired high idle. Notify Unit Maintenance when mission is completed.

Step 6. Ensure High Idle Speed switch (4) is latched and truck engine speed is at high-idle (1275 rpm).

Step 7. Check that outrigger jacks are firmly deployed. If not, lower outrigger jacks until front suspension is unloaded and tires do not bulge.

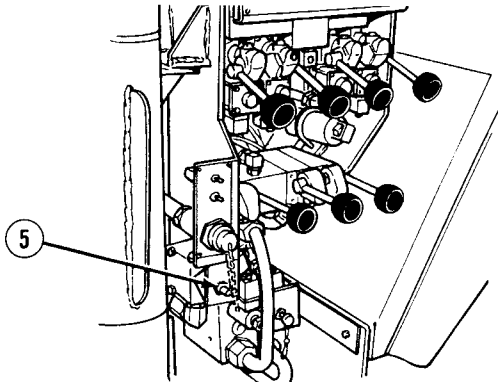
- If outrigger cannot be lowered, go to Step 8.
- If outrigger can be lowered, go to Step 9.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

MATERIAL HANDLING CRANE (MHC) (CONT).

1. MHC WILL NOT OPERATE (CONT).



NOTE

If high idle or remote control operates, the crane overload protection is operating when the main hydraulic pressure override is turned CCW and pulled out.

Step 8. Turn MHC Main Hydraulic Pressure Manual Override (5) CCW and pull out. Check that outrigger can be lowered to maintain full contact with ground.

- If outrigger jacks can not be lowered, go to Step (10).
- If outrigger jacks can be lowered, go to Step (9).

Step 9. Try to manually operate other MHC controls on main control valve bank.

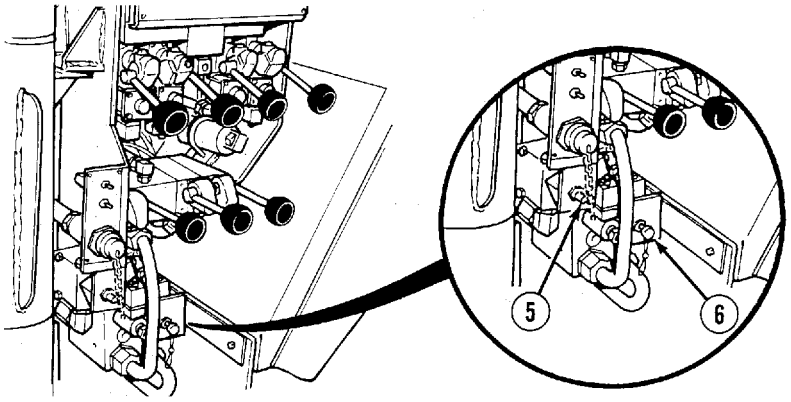
- If all functions operate, leave MHC Main Hydraulic Pressure Manual Override (5) out and complete MHC operation. Notify Unit Maintenance upon completion of mission.
- If functions do not operate, go to Step 10.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

MATERIAL HANDLING CRANE (MHC) (CONT).

1. MHC WILL NOT OPERATE (CONT).



WARNING

When the wire is cut and the override valve is pushed in, the crane overload safety features do not function. Make sure outrigger jacks are firmly in place or injury to personnel or equipment damage could result.

Step 10. Ensure MHC Main Hydraulic Pressure Manual Override (5) is still out. Use pliers and cut wire on MHC System Hydraulic Pressure Manual Override (6). Press in button and hold. Check that outrigger jacks can now be lowered to maintain full contact with ground.

- If outrigger jacks cannot be lowered to ground, notify Unit Maintenance.
- If outrigger jacks can be lowered, go to Step 11.

Step 11. Check that all crane controls on main valve bank operate with MHC System Hydraulic Pressure Manual Override (6) pressed in. Continue operations and mission. Notify Unit Maintenance when mission is completed.

- Refer to Emergency Procedures (Para 2-57) to complete mission.
- If MHC controls do not operate, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action
MATERIAL HANDLING CRANE (MHC) (CONT).
2. MHC WILL NOT OPERATE WITH REMOTE CONTROLS.
Step 1. If using remote control, check electrical connections at the remote control and at the MHC hook up.
Step 2. Check that outrigger jacks are firmly deployed. If not, lower outrigger jacks until front suspension is unloaded and tires do not bulge.
WARNING Operator will have limited visibility of load when using the manual controls. Use a ground guide to relay signals to the operator. Boom and load moving out of control could cause serious injury or death.
Step 3. When operating the remote control, check that manual control levers move when the remote control unit is operated. • If levers do not move, use manual controls to operate MHC. Notify Unit Maintenance upon completion of mission. • If levers do move, refer to Malfunction 1.

Table 3-1. Troubleshooting - CONT.

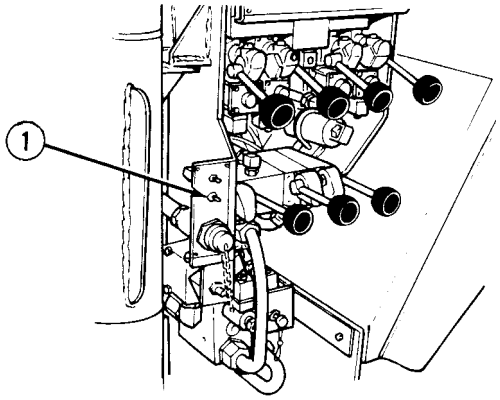
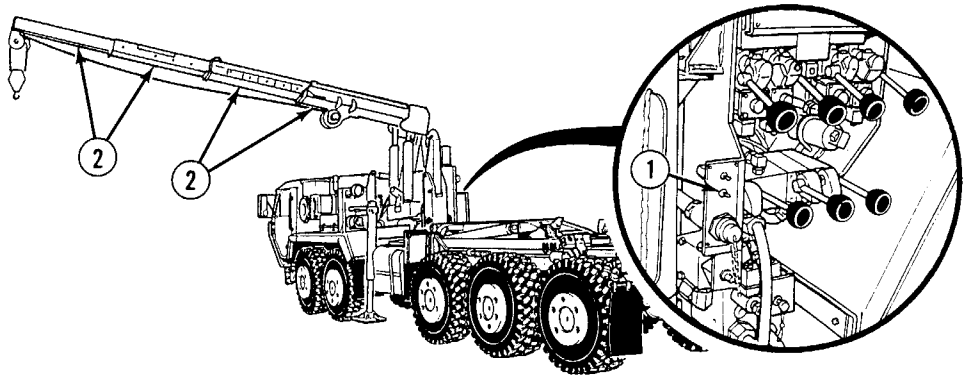
Malfunction Test or Inspection Corrective Action
MATERIAL HANDLING CRANE (MHC) (CONT).
3. OUTRIGGER JACKS, MAST OR BOOM OPERATION SLOW OR ABNORMAL.

NOTE If high idle does not work, but is required for mission, remove chock block from stowage and place on throttle control to achieve desired high idle. Notify Unit Maintenance when mission is completed.
Step 1. Ensure if Engine High Idle Speed switch (1) is latched and engine is at high idle (1275 rpm).
Step 2. Check main hydraulic reservoir for fluid level. • If level is low, notify Unit Maintenance. • If level is OK and problem persists, notify Unit Maintenance.
4. BOOM WILL NOT RAISE OR LOWER.
Step 1. Check that outrigger jacks are firmly deployed. If not, lower outrigger jacks until front suspension is unloaded and tires do not bulge.
Step 2. Check that load is not over the load limit shown on range diagram (Para 2-30). • If load is over range diagram, lower load to ground and reduce load to correct weight. • If load is OK and problem remains, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

MATERIAL HANDLING CRANE (MHC) (CONT).

5. BOOM OPERATION JERKY OR WILL NOT TELESCOPE IN OR OUT.



Step 1. Check that outrigger jacks are firmly deployed. If not, lower outrigger jacks until front suspension is unloaded, and tires do not bulge.

NOTE

If high idle does not work, but is required for mission, remove chock block from stowage and place on throttle control to achieve desired high idle. Notify Unit Maintenance when mission is completed.

Step 2. Ensure Engine High Idle switch (1) is latched and engine is at high idle (1275 rpm).

Step 3. Check fluid level in main hydraulic reservoir.

- If level is low, notify Unit Maintenance.
- If level is OK, go to Step 4.

Step 4. Check that load is not over the load limit shown on range diagram (Para 2-30).

- Lower load and reduce load to correct weight.
- If load is OK, go to Step 5.

Step 5. Visually check if boom sections (2) are bent or damaged.

- If boom sections are bent or damaged, notify Unit Maintenance.
- If boom sections are OK, go to Step 6.

Table 3-1. Troubleshooting - CONT.

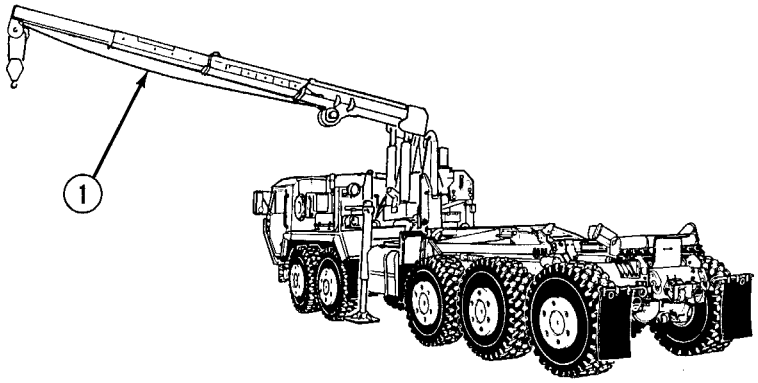
Malfunction Test or Inspection Corrective Action
MATERIAL HANDLING CRANE (MHC) (CONT).
5. BOOM OPERATION JERKY OR WILL NOT TELESCOPE IN OR OUT (CONT).
Step 6. If boom operation is still jerky, there may be air in cylinders. • Remove load from MHC, then raise boom above horizontal; telescope out. Lower boom below horizontal; telescope in to purge air from cylinder.
Step 7. If any problem remains, notify Unit Maintenance.
6. HOIST OPERATION JERKY WILL NOT LIFT OR LOWER LOAD.

Step 1. Check that outrigger jacks are firmly deployed. If not, lower outrigger jacks until front suspension is unloaded.
Step 2. Check that load is not in a over load limit shown on range diagram (Para 2-30). • If load is over limits, lower load, and reduce load to correct weight.
Step 3. Check if hoist cable (1) is binding on drum. • If cable is binding, refer to Malfunction 8.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action
MATERIAL HANDLING CRANE (MHC) (CONT).
7. SWING OPERATION SLOW, JERKY IN ONE OR BOTH DIRECTIONS OR WILL NOT SWING IN EITHER DIRECTION. Step 1. Check that outrigger jacks are firmly deployed. If not, lower outrigger jacks until front suspension is unloaded. Step 2. Check if truck is level (Para 2-30a). • Level truck. Step 3. Check fluid level in main hydraulic reservoir. • If fluid level is low, notify Unit Maintenance. • If fluid level is OK and problem persists, notify Unit Maintenance.
8. HOIST DOES NOT SPOOL CABLE PROPERLY. Step 1. As soon as a mis-spooled condition is observed, immediately lower any load to the ground. Step 2. Elevate the boom to the maximum angle, telescope out to maximum length, and lower the hook to just above ground level (approximately five wraps of cable remaining on the drum). Step 3. Observe the entire length of hoist cable, and note any obvious kinks. If kinks are noted, position the crane as necessary to permit access to the kinked areas and refer to Para 2-11 and examine cable for broken wires. • If the cable is still serviceable, return the crane to the position described in Step 2.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action
MATERIAL HANDLING CRANE (MHC) (CONT). **8. HOIST DOES NOT SPOOL CABLE PROPERLY (CONT).**

CAUTION

Do not hoist up while correcting cable wraps, just let the cable lay on the ground or damage to equipment may result.

Step 4. Observe the cable remaining on the hoist drum, for any looseness or gaps between wraps. If gaps exist, lower the boom as necessary to access the hoist (do not hoist up, just let the cable lay on the ground). Using a hammer, (Item 10, Appendix B, BII) gently tap the cable wraps back into close contact.

CAUTION

Do not touch the hoist control while raising boom or damage to equipment may result.

Step 5. Raise the boom to maximum angle.

Step 6. If possible, without changing the boom length and angle, attach a load not exceeding 3900 lbs. (1771 kg). Otherwise, reconfigure the crane as little as possible to achieve the load attachment, while carefully monitoring the state of spooling and place the load at a location equivalent to maximum boom length and maximum boom angle (i.e. approximately 14 ft. (4.27 m) radius). Extend the boom to maximum length and elevate to maximum angle.

CAUTION

When the load rests on the ground, do not allow the hookblock to rest on the load and the cable to become completely unloaded or damage to equipment may result.

Step 7. Lift the load carefully and hoist it slowly to the maximum height (do not two-block), observing the spooling. If mis-spooling occurs, immediately lower the load and repeat up to 12 times.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

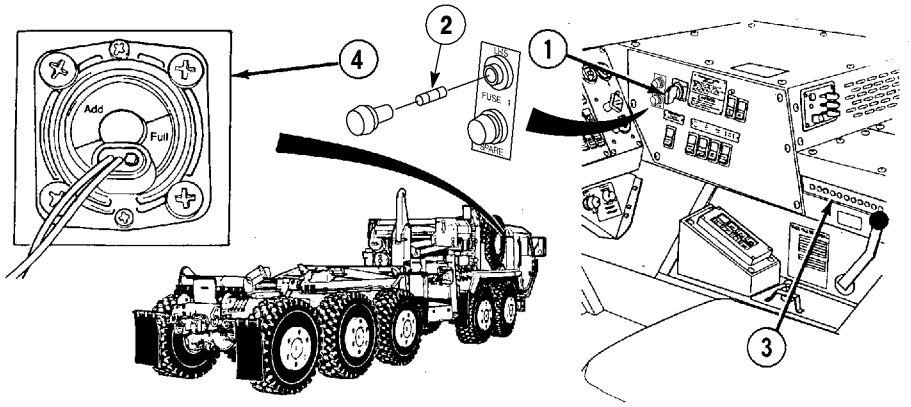
MATERIAL HANDLING CRANE (MHC) (CONT).

8. HOIST DOES NOT SPOOL CABLE PROPERLY (CONT).

Step 8. If the cable continues to mis-spool badly, notify Unit Maintenance. Otherwise, lift the load and lower it 12 times, then detach the load and repeat the process with no load attached. If mis-spooling occurs, notify Unit Maintenance. Otherwise, stow the crane or continue the operation.

LOAD HANDLING SYSTEM (LHS)

1. LOAD HANDLING SYSTEM WILL NOT OPERATE.



Step 1. Ensure that hydraulic selector switch (1) is in the correct position.

Step 2. Check if LHS controller fuse (2) is blown.

- If fuse is blown, replace with spare fuse.
- If fuse blows again, notify Unit Maintenance.

Step 3. Check if LHS/CRANE circuit breaker (3) is tripped.

- If breaker is tripped, reset.
- If breaker trips again, notify Unit Maintenance.

Step 4. Check fluid level in the hydraulic reservoir (4).

- If fluid level is low, notify Unit Maintenance.
- If fluid level is OK and problem persists, refer to Para 2-57 and perform emergency operations to complete the mission. Notify Unit Maintenance when mission is completed.

Table 3-1. Troubleshooting - CONT.

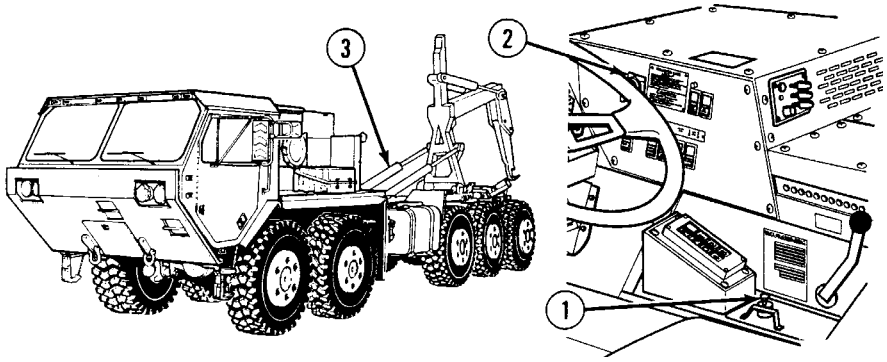
Malfunction Test or Inspection Corrective Action

LOAD HANDLING SYSTEM (LHS) (CONT).

2. LHS MAIN FRAME CYLINDERS MOVE SLOWLY DURING UNLOAD OPERATION.

NOTE

Reload flatrack onto truck. If problem remains, go to Step (1).



Step 1. Check fluid in main hydraulic reservoir, with LHS in transit position.

- If fluid level is low, notify Unit Maintenance.
- If fluid level is OK and problem persists, go to Step 2.

Step 2. If operating in mode:

a. Throttle engine to approximately 1500 rpm.

b. Move joystick (1) to LOAD position and hold for approximately three seconds.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

c. If in MAN M.F. move hydraulic selector switch (2) to OFF or MAN TRANS position for approximately three seconds, return switch to desired position and continue unloading operation.

d. Release joystick (1) and continue unloading operations.

e. If main frame cylinder (3) still operates slowly, repeat Steps a. through c. one more time.

f. If problem remains, notify Unit Maintenance.

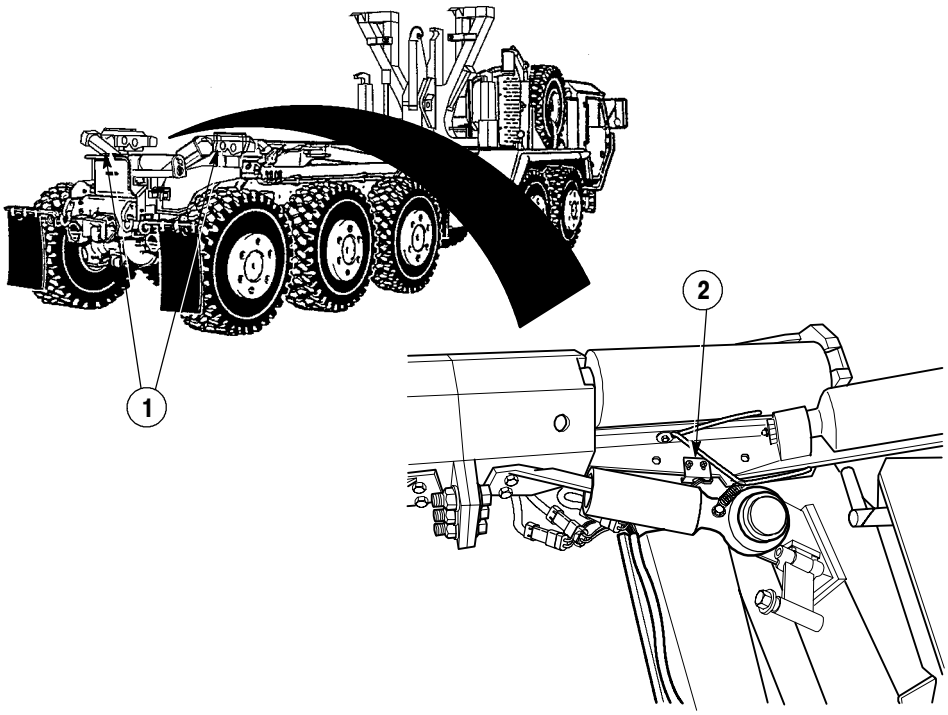
Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action
LOAD HANDLING SYSTEM (LHS) (CONT).
3. LHS MOVES SLOWLY IN ALL MODES.
Step 1. Check fluid level in main hydraulic reservoir. • If fluid level is low, notify Unit Maintenance. • If fluid level is OK, notify Unit Maintenance.
4. FLATRACK DISENGAGES FROM LHS HOOK WHILE ATTEMPTING TO UNLOAD.
Step 1. Manually re-engage flatrack hook bar with LHS hook (Para 2-57) and notify supervisor to contact DS Maintenance.
SPECIAL PURPOSE KITS
1. M-8 CHEMICAL ALARM.
Step 1. Refer to TM 3-6665-225-12 for M-8 Chemical Alarm Troubleshooting Instructions.
2. RADIO.
Step 1. Refer to TM 11-5820-498-12 for Radio Troubleshooting Instructions.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

CONTAINER HANDLING UNIT (CHU)



1. LHS DOES NOT FULLY EXTEND IN FLATRACK MODE.

NOTE

Left side short strut on slider arm, engages mode switch to place truck in flatrack mode.

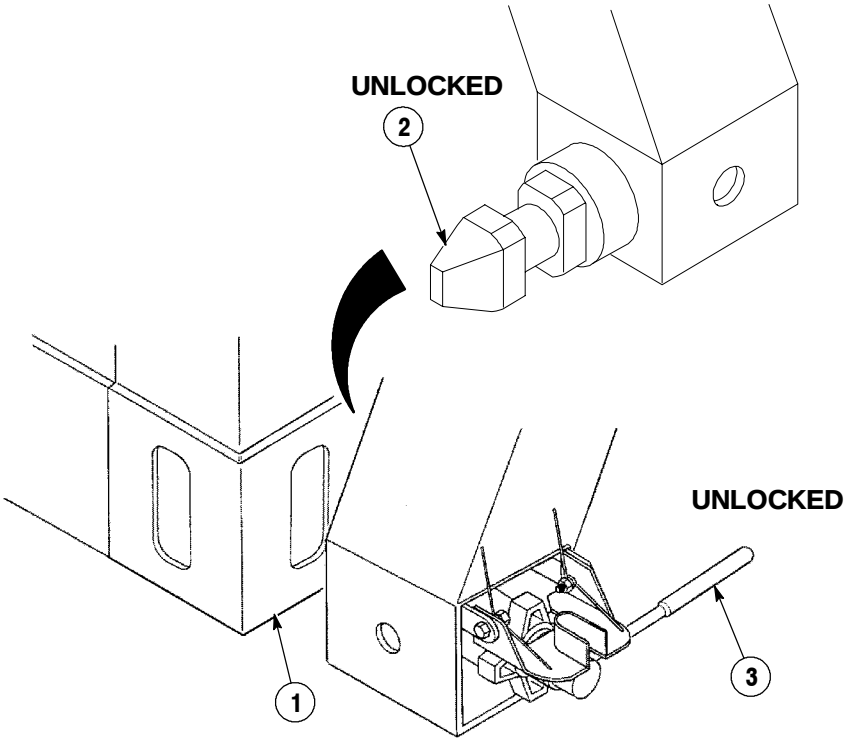
Step 1. Ensure both sliders (1) have been completely stowed (Para 2-38).

- If LHS can not be fully extended, notify Unit Maintenance to adjust mode switch (2).

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

CONTAINER HANDLING UNIT (CHU)



2. LIFTING FRAME LOWER CONTAINER LOCKS WILL NOT ENGAGE INTO CONTAINER LOWER CASTINGS.

Step 1. Check for mud and debris around both container lower castings (1).

- Clean mud and debris from container castings.

Step 2. Check that both lower container locks (2) are free of mud and debris and rotate freely.

- Clean mud and debris from container locks.

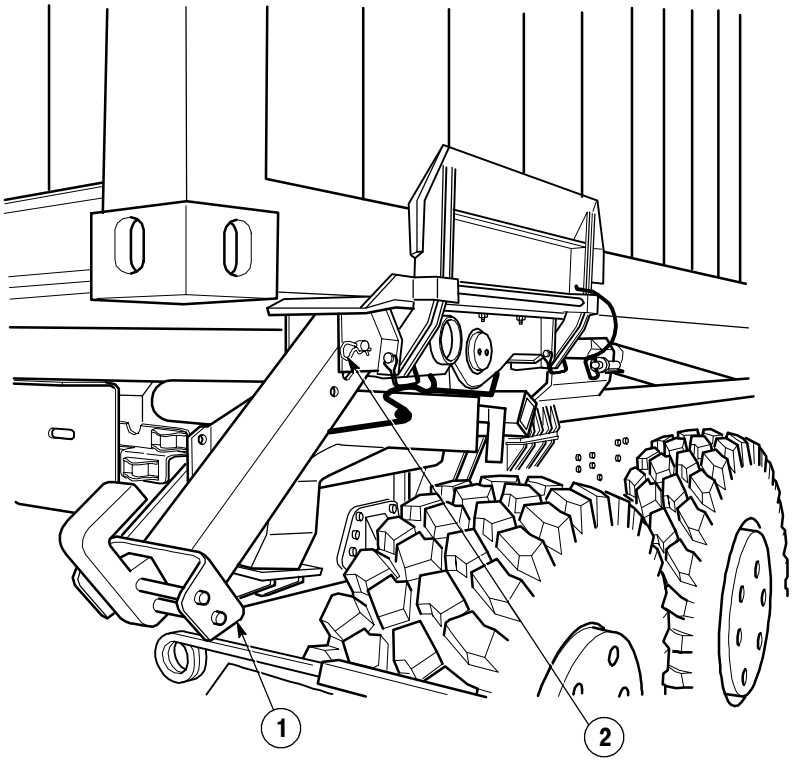
Step 3. Check that both lower container locks (2) are in the straight up (UNLOCKED) position, handle (3) will face in (position towards center of truck).

- Position lower container lock to the UNLOCKED position.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

CONTAINER HANDLING UNIT (CHU)



3. ONE OR BOTH REAR CONTAINER LOCKS CANNOT BE PINNED.

Step 1. Container may not be fully stowed on truck.

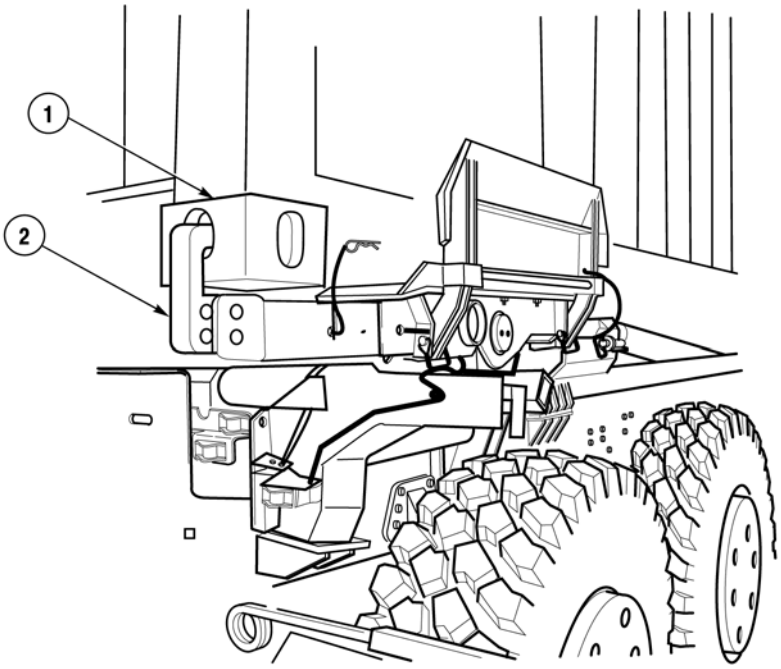
- Reload container on truck. Refer to 2-33 through 2-36.

Step 2. One or both rear container locks (1) or pins (2) may be damaged or bent, notify Unit Maintenance.

- If pins on container locks are damaged or bent, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action
CONTAINER HANDLING UNIT (CHU)



3. ONE OR BOTH REAR CONTAINER LOCKS CANNOT BE FREED FROM CONTAINER.

Step 1. Container (1) may have shifted, pinning locks (2) tight.

- Hit locks (2) with BII hammer to loosen them.

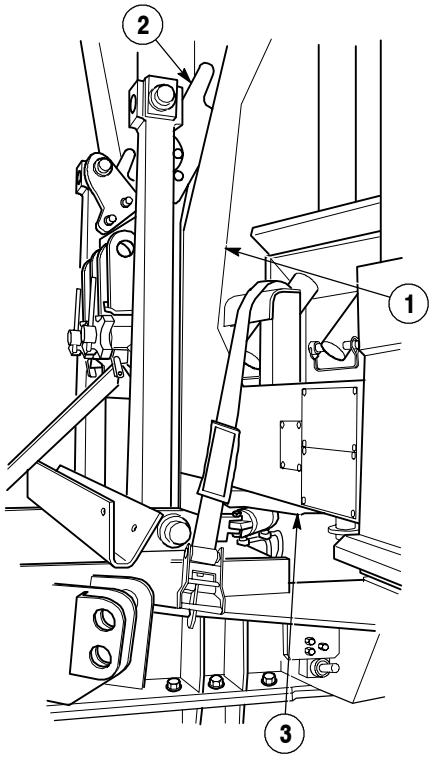
Step 2. One or both rear container locks (2) may be damaged or bent, notify Unit Maintenance.

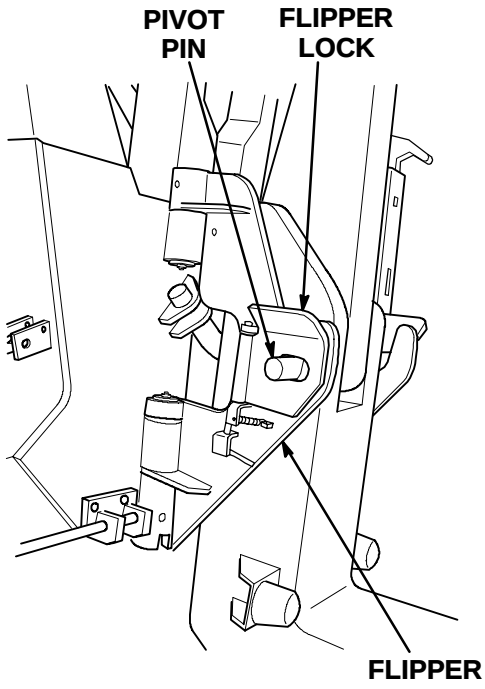
- If container locks are damaged or bent, notify Unit Maintenance.

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

CONTAINER HANDLING UNIT (CHU) (CONT).





4. FLIPPER AND FLIPPER LOCK WILL NOT ENGAGE AND/OR DISENGAGE PIVOT PIN WHEN LIFTING FRAME IS IN STOWED POSITION.

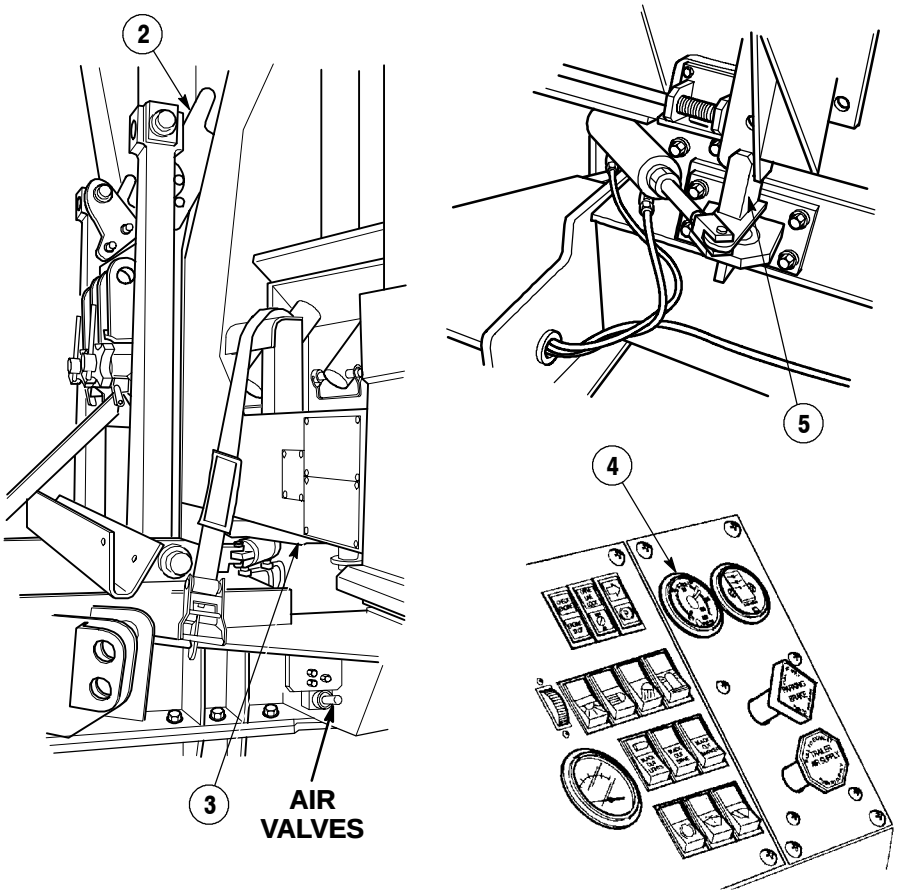
Step 1. Check that lifting frame (1) is completely seated in stow hooks (2) and on cone weldment (3).

- Restow lifting frame (Para 2-43).

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

CONTAINER HANDLING UNIT (CHU) (CONT).



4. FLIPPER AND FLIPPER LOCK WILL NOT ENGAGE AND/OR DISENGAGE PIVOT PIN WHEN LIFTING FRAME IS IN STOWED POSITION (CONT).

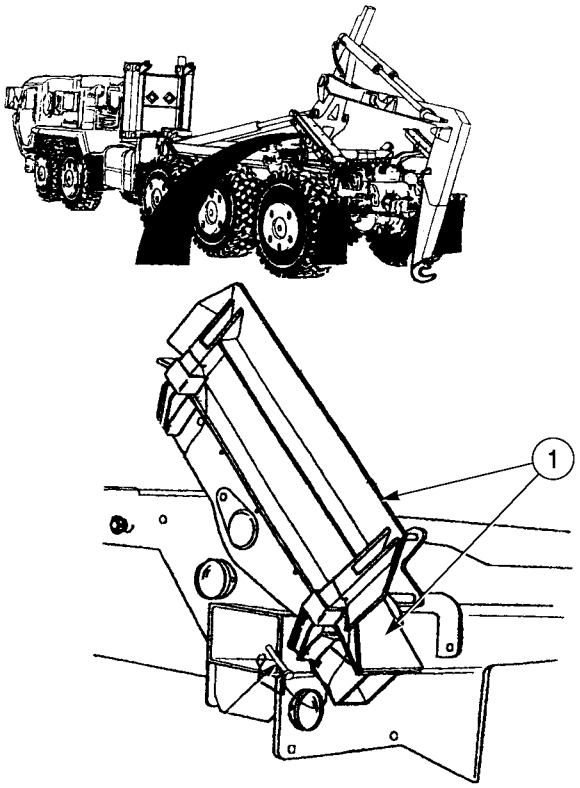
Step 2. Check air pressure gage.

- If air pressure gage (4) reads between 75 psi (517 kPa), start engine and build up air pressure to 125 psi (861 kPa).
- If problem is still present, notify Unit Maintenance to adjust stow hooks (2), cone weldment (3) and/or rotary paddles (5).

Table 3-1. Troubleshooting - CONT.

Malfunction Test or Inspection Corrective Action

CONTAINER HANDLING UNIT (CHU)



5. CONTAINER JERKS WHILE IN CONTACT WITH SLIDERS DURING LOADING OR UNLOADING SEQUENCE.

Step 1. Sliders (1) may be lacking adequate grease to allow container to slide smoothly.

- Stop sequence and grease sliders (1).
- If loading, reverse sequence to remove container from contact with sliders (1) prior to greasing.
- If unloading, stop sequence and attempt to grease sliders (1) as access allows.

Step 2. Grease sliders (1) once container is unloaded.

Section III. MAINTENANCE PROCEDURES

3-4. CLEAN FUEL TANK STRAINER(S).

This task covers:

a. Remove and Clean Fuel Tank Strainer
b. Install Fuel Tank Strainer

INITIAL SETUP

Materials/Parts
Rags (Item 13, Appendix D)

Equipment Condition
Wheels chocked, (Para 2-22)
Engine OFF, (Para 2-23)

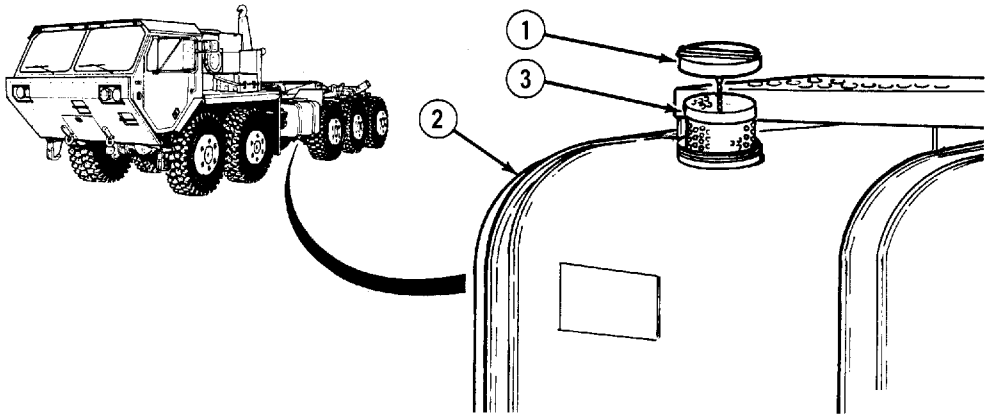
a. Remove and Clean Fuel Tank Strainer.

WARNING

Fuel is very flammable and can explode easily. To avoid serious injury or death:

- Keep fuel away from open flame or any spark (ignition source).
- Keep at least a B-C fire extinguisher within easy reach when working with fuel or on a fuel system.
- Do not work on fuel system when engine is hot; fuel can be ignited by a hot engine.
- Clean fuel tank to purge any flammable liquid or vapors before welding, grinding or using any heat producing device near the fuel tank.
- When refueling, stop truck, shut down engine, and apply parking brake. Ensure no open flame in near area. Never smoke. Never add fuel with engine running. Do not have driver seated when adding fuel. After fuel is added, securely close reservoir cap; a loose cap can cause a fuel leak or be a fire hazard. Before starting truck, check that no fuel is spilled on or around truck.

3-4. CLEAN FUEL TANK STRAINER(S) (CONT).



NOTE

Steps are the same for trucks equipped with auxiliary fuel tank. Main fuel tank is shown.

(1) Wipe dirt from fuel filler cap (1).

(2) Remove fuel filler cap (1) from fuel tank (2).

(3) Pull strainer (3) out of fuel tank (2).

(4) Wipe strainer (3) with clean dry rag.

b. Install Fuel Tank Strainer.

NOTE

Steps are the same for trucks equipped with auxiliary fuel tank. Main fuel tank is shown.

(1) Put strainer (3) in fuel tank (2).

(2) Install and tighten fuel filler cap (1).

END OF TASK

3-5. TIRE REPLACEMENT.

This task covers:

a. Prepare Truck
b. Remove Flat Tire
c. Install Spare Tire and Wheel
d. Stow Tire Using Tire Davit
e. Stow Davit
f. Follow-On Maintenance

INITIAL SETUP

Tools and Special Tools
Handle, Winch
(Item 11, Appendix B)
Handle, Extension, Jack
(Item 12, Appendix B)
Handle Sliding
(Item 14, Appendix B)
Air Hose Assembly
(Item 16, Appendix B)
Jack, Hydraulic (12 ton)
(Item 17, Appendix B)
Jack Plate (Item 23, Appendix B)
Socket 33 mm
(Item 31, Appendix B)
Socket 1-1/2 in.
(Item 32, Appendix B)
Strap, Ratchet, 10 ft.
(Item 33, Appendix B)
Wrench, Adjustable 8 in.
(Item 35, Appendix B)

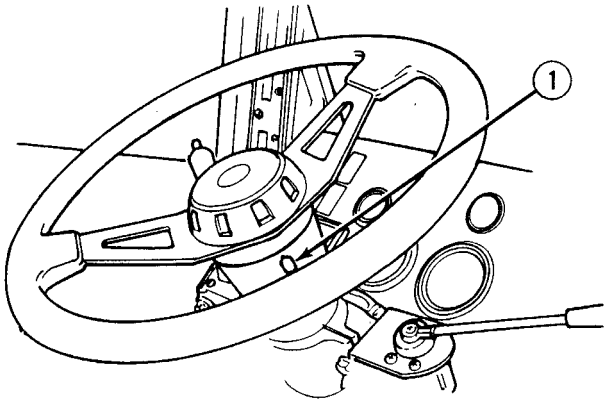
Tools and Special Tools - Continued
Wrench, Air
(Item 37, Appendix B)
Wrench, Open End 3/4 by 7/8 in.
(Item 40, Appendix B)
Wrench, Tube 3/4 in.
(Item 43, Appendix B)

Personnel Required
MOS 88M Heavy Vehicle
Operator (2)

Equipment Condition
Parking brakes set, (Para 2-16)
Highway safety markers
set out if required, (Para 2-54)
Ladder removed, (Para 3-6)
Wheels chocked, (Para 2-22)
CTIS turned off, (Para 2-24)

3-5. TIRE REPLACEMENT (CONT).

a. Prepare Truck.



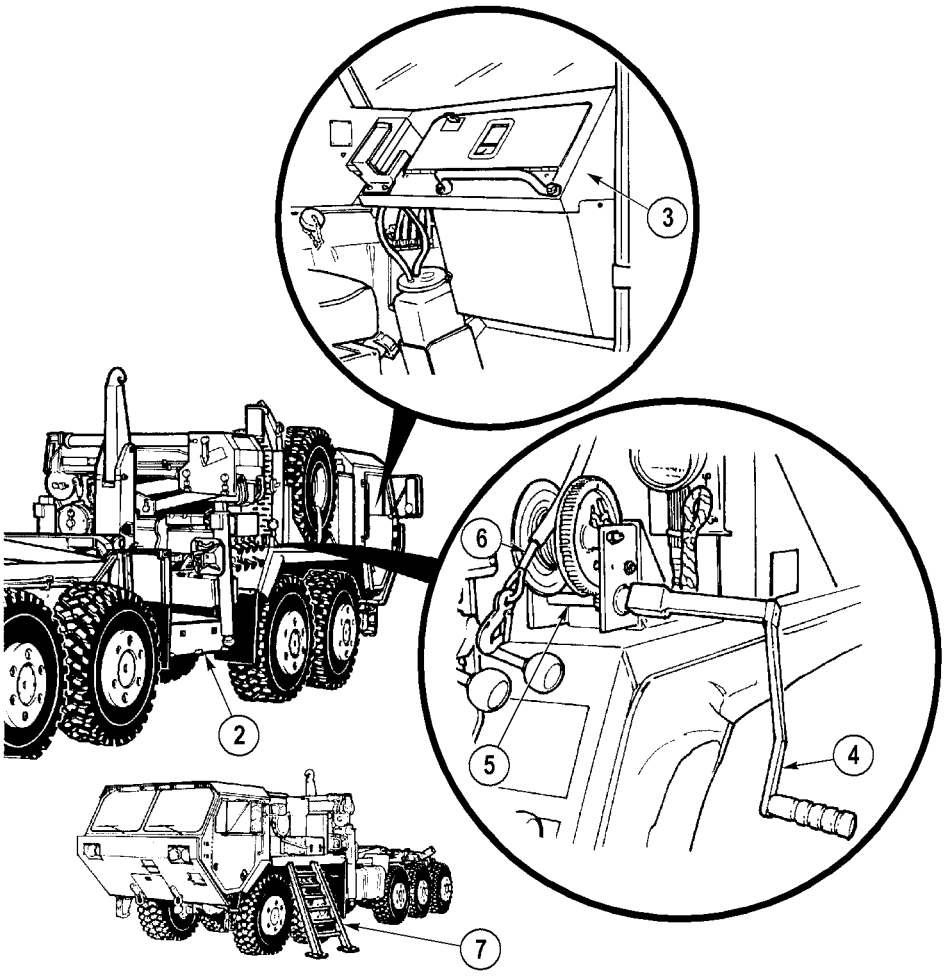
WARNING

Park truck in safe area, out of traffic, where there is no danger to personnel changing tire assembly. Park truck on hard, level ground.

NOTE

- This task is the same for all ten tire assemblies.
- Ladder is used for this procedure.

(1) If required, turn on emergency flasher (1).



NOTE

If an air wrench is not available, a slide handle with extension handle can be used.

(2) Remove jack, jack handle, winch handle, jack plate from stowage box (2), and 3/4 in. tube wrench, 7/8 in. by 3/4 in. open end wrench, air hose, air wrench, cargo strap, 33 mm socket and 1-1/2 in. socket from glove box (3).

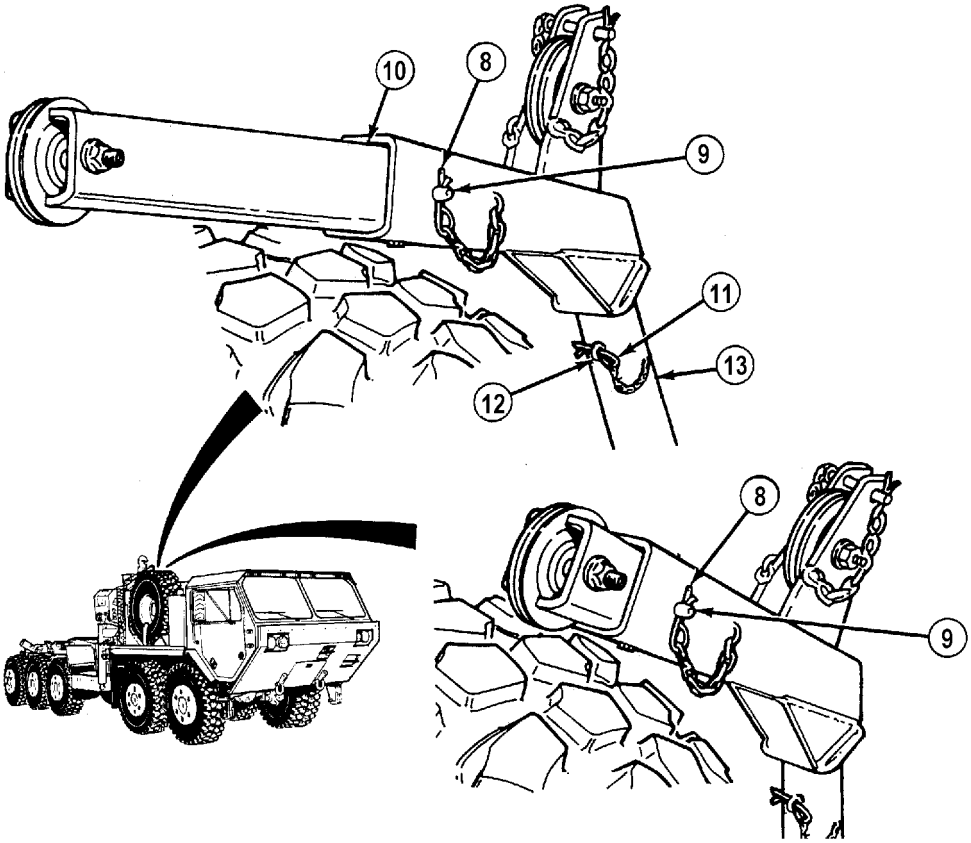
(3) Install winch handle (4) to winch (5) and turn counterclockwise approximately three turns.

(4) Remove hook (6) from winch (5).

(5) Turn winch handle (4) counterclockwise until hook (6) touches ground.

(6) Install ladder (7) to left side of truck.

3-5. TIRE REPLACEMENT (CONT).



WARNING

Do not touch hot exhaust system with bare hands; injury to personnel will result.

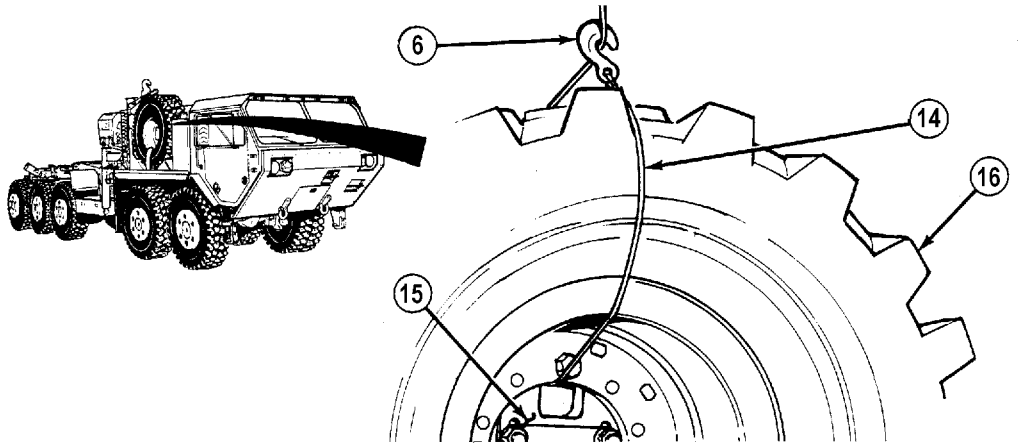
NOTE

There is a second hole drilled in the extension arm to allow the pin to be re-inserted and lock the extension arm in extended position.

(7) Remove safety pin (8) and pin (9) from extension arm (10) and extend the extension arm to second alignment hole.

(8) Install pin (9) and safety pin (8) in second alignment hole.

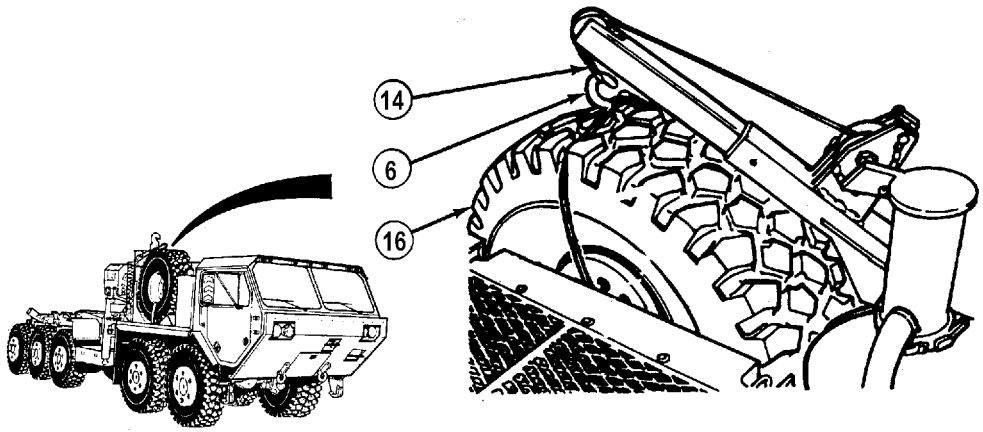
(9) Remove safety pin (11) and pin (12) from hoist (13).



CAUTION

Do not allow cable to damage CTIS fittings on spare tire.

(10) Route hook (6) and cable (14) through mount plate (15) and around spare tire (16).

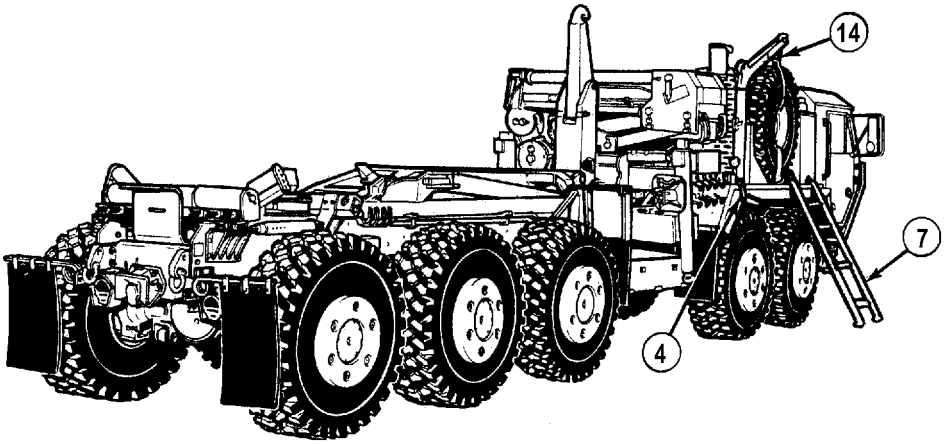


CAUTION

Ensure hook is connected at a point where rubber casing covers cable or damage to cable may result.

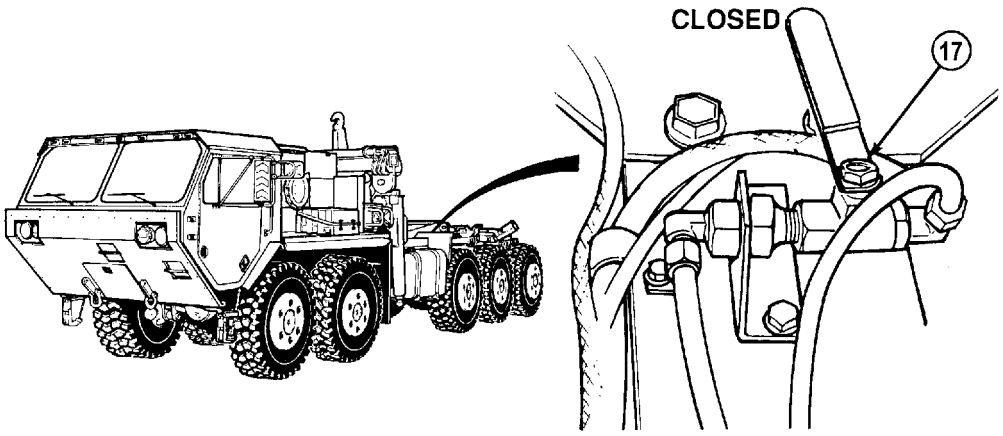
(11) Attach the hook (6) to the cable (14) above spare tire (16).

3-5. TIRE REPLACEMENT (CONT).



(12) Move ladder (7) to right side of truck.

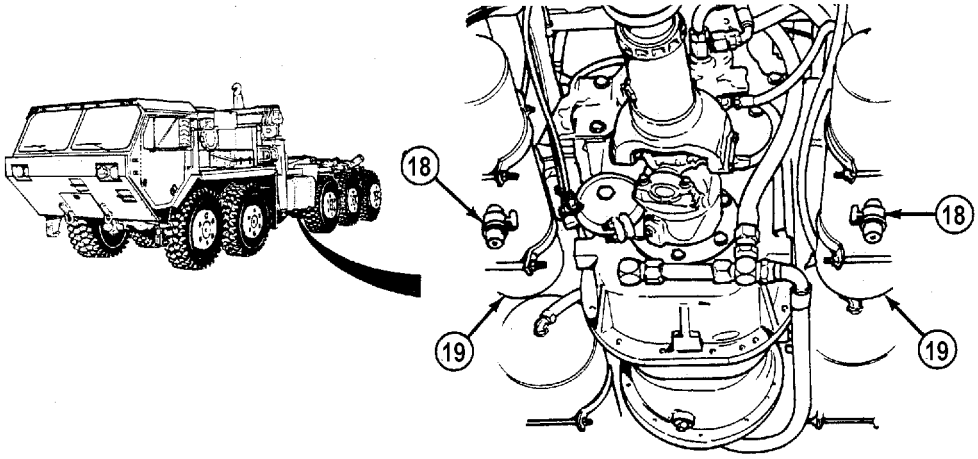
(13) Turn winch handle (4) clockwise to place tension on cable (14).



NOTE

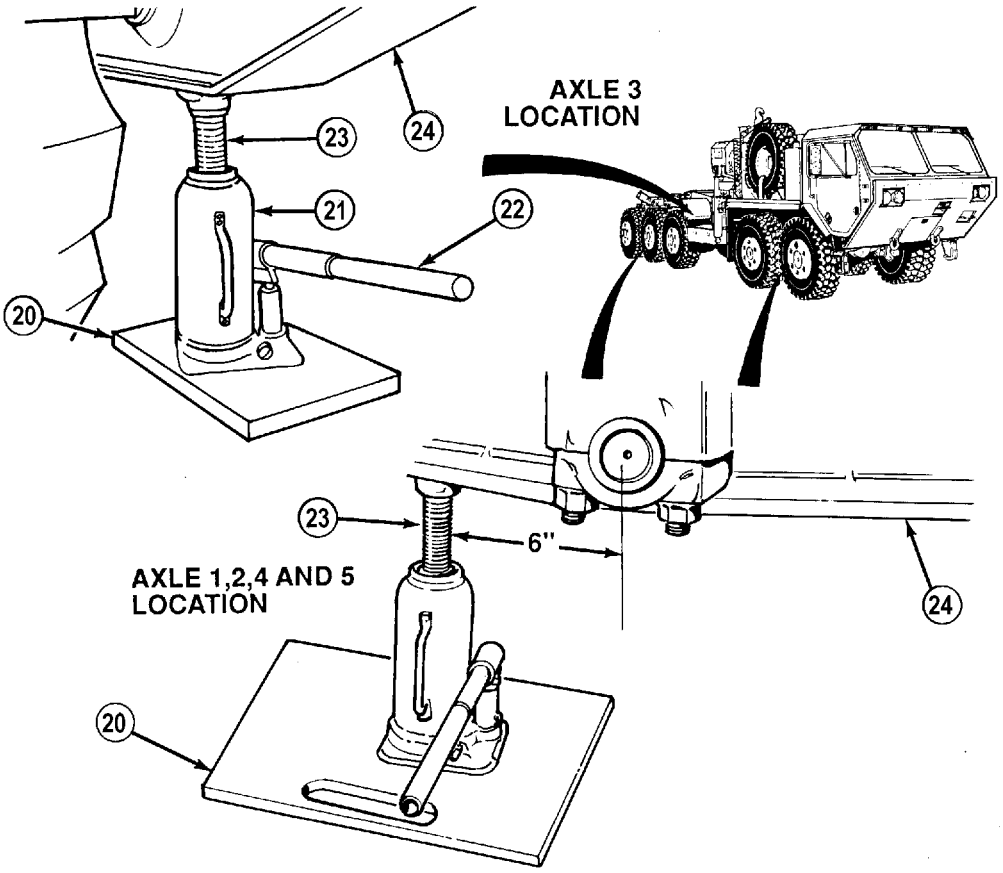
Perform Steps (14) and (15) if flat tire is on Axle No. 3.

(14) Close ball valve (17) located on top of crossmember behind transfer case.



(15) Open drain valves (18) on both air tanks (19) (rear tank on both sides of truck).

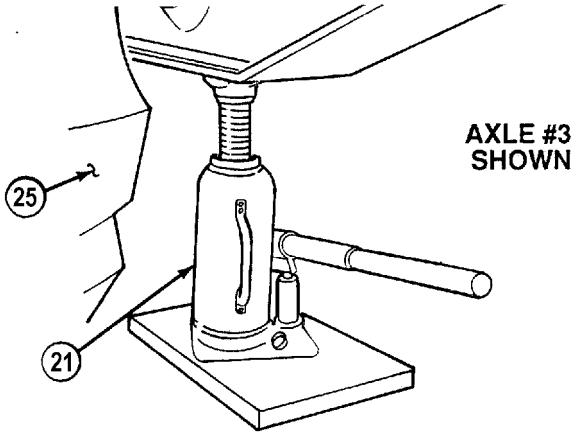
3-5. TIRE REPLACEMENT (CONT).



NOTE

- Jack position will vary depending on location of flat tire.
- On Axles No. 1, 2, 4 and 5, place jack under beam nearest to flat tire.

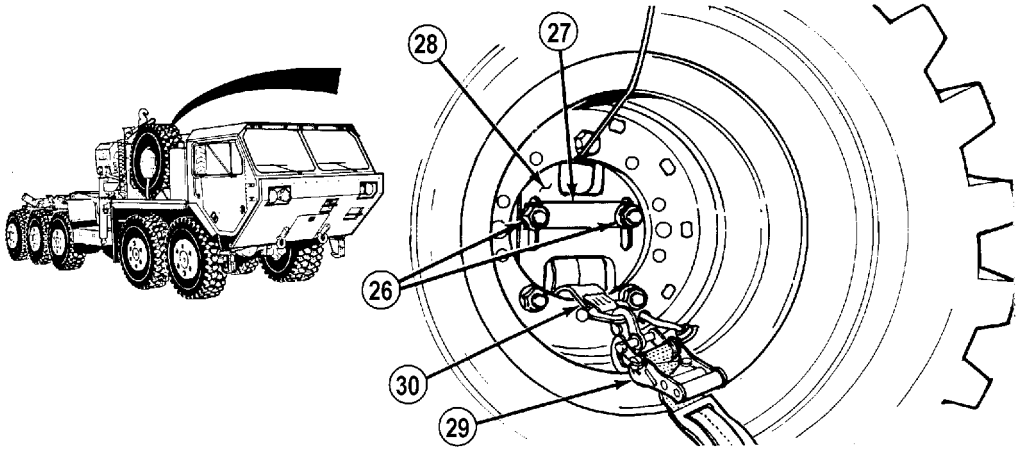
(16) Position the jack base plate (20), jack (21) and handle (22) under truck in position shown and unscrew jack extension (23) until it touches truck axle beam (24).



WARNING

Crew member should steady the tire during removal. Falling tire may cause injury to personnel.

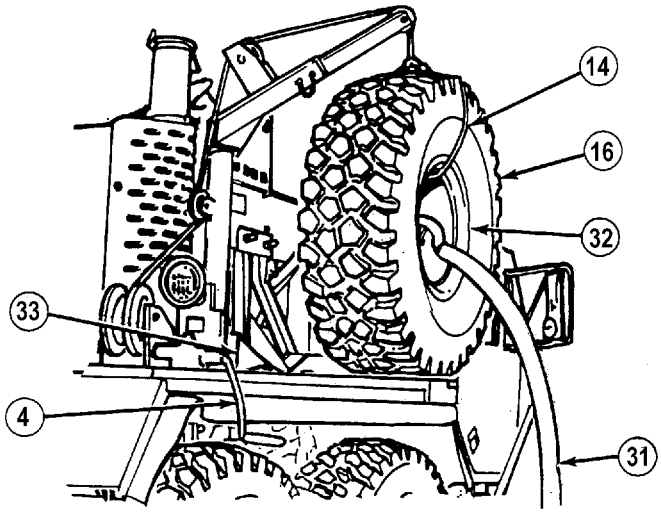
(17) Raise jack (21) until flat tire (25) is slightly off ground.



(18) Using air wrench and 1-1/2 in. socket (Para 3-8), remove two nuts (26) and plate (27) from mount plate (28).

(19) Disconnect ratchet strap (29) from strap (30).

3-5. TIRE REPLACEMENT (CONT).



WARNING

- Stand clear of tire when raising or lowering.
- Do not let tire hang in midair for long period of time. Place tire on carrier or on ground as soon as possible. Tire is very heavy and could cause serious injury if it falls.

(20) Hook cargo strap (31) to rim (32).

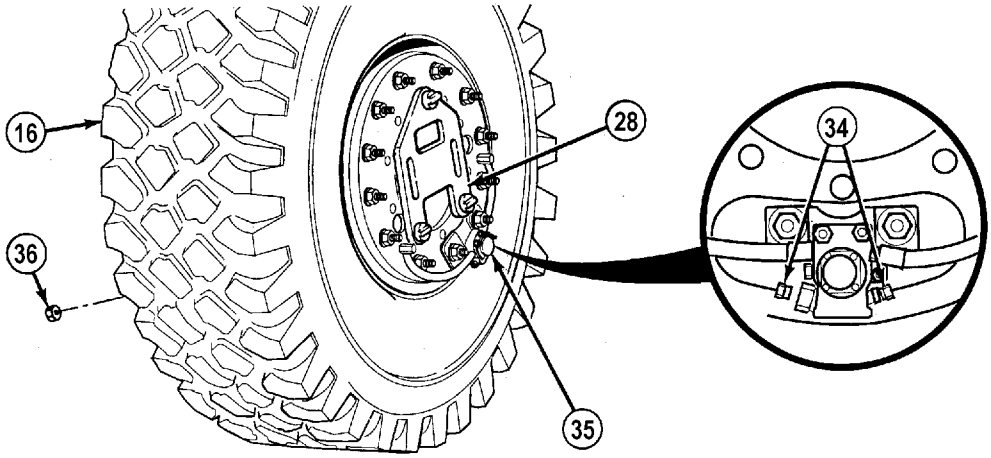
(21) Move ladder out of the way.

(22) Turn winch handle (4) clockwise to lift spare tire (16) just above carrier (33).

(23) Pull on cargo strap (31) so spare tire (16) is clear of truck.

(24) Turn winch handle (4) counterclockwise to lower spare tire (16) to ground.

(25) Remove cargo strap (31) and cable (14) from spare tire. Lean spare tire against truck and out of the way.



CAUTION

Be careful not to twist the CTIS plug tethering cables. Failure to comply may result in damage to equipment.

NOTE

Rotate tire so mounting plate is facing away from truck.

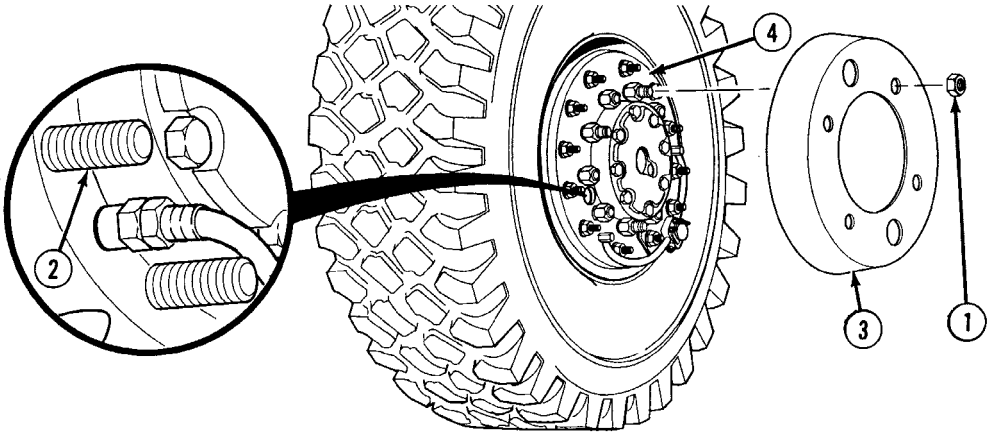
(26) Using 7/8 in. by 3/4 in. open end wrench, remove two plugs (34) from CTIS valve (35).

(27) Rotate tire and remove three nuts (36) from mount plate (28) and retain for later use.

(28) Remove mount plate (28) from spare tire (16).

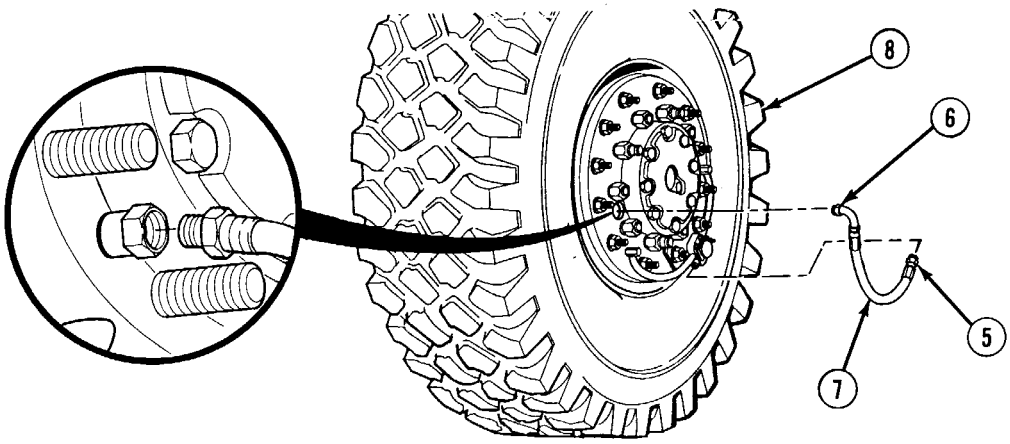
3-5. TIRE REPLACEMENT (CONT).

b. Remove Flat Tire.



(1) Using air wrench and 33 mm socket, remove four wheel cover nuts (1) from studs (2).

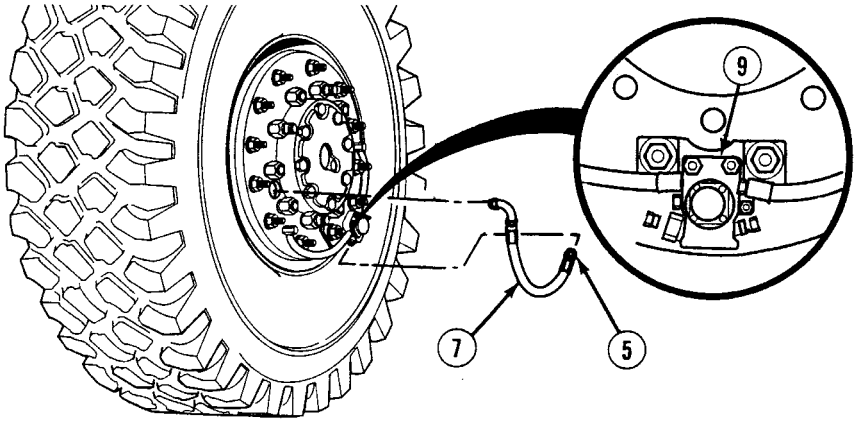
(2) Remove wheel cover (3) from rim (4).



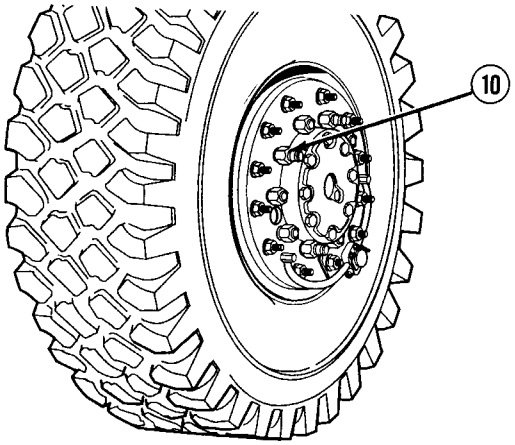
NOTE

Note location of CTIS holes in tire rim to aid in installation of spare tire.

(3) Using 8 in. adjustable wrench, 3/4 in. tube wrench and 7/8 in. by 3/4 in. open end wrench, loosen two nuts (5) and (6) and remove two CTIS hoses (7) from flat tire (8).



(4) Install two CTIS hoses (7) (removed from flat tire) on spare tire CTIS wheel valve (9) and tighten nut (5) finger tight.



WARNING

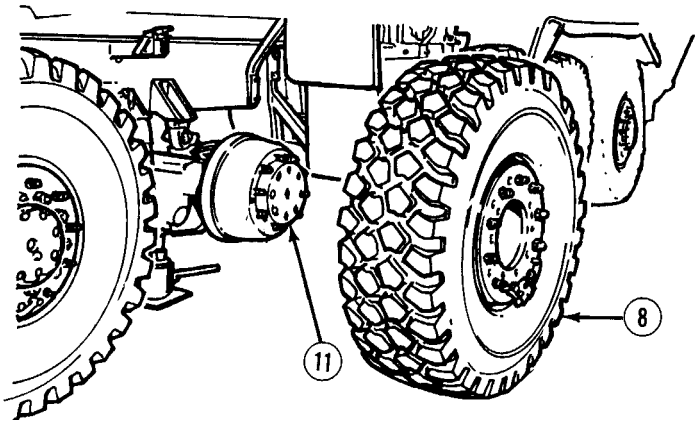
Do not loosen or remove outer bolt circle nuts on wheel. Outer bolt circle holds wheel assembly together. Tire is under pressure and loosening these nuts can cause the tire to blow apart. Severe injury or death may occur.

NOTE

Studs and lug nuts on both sides of truck have right-hand threads. Rotate lug nuts counterclockwise to loosen, clockwise to tighten.

(5) Using air wrench and 1-1/2 in. socket, remove ten lug nuts (10).

3-5. TIRE REPLACEMENT (CONT).



WARNING

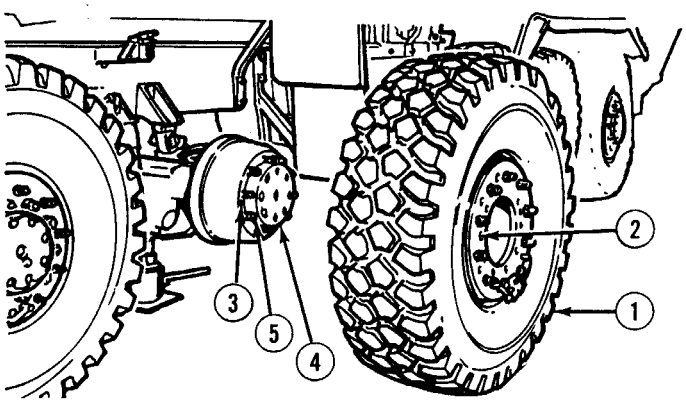
Keep hands away from the inside of the rim while removing tire or injury to personnel may result.

CAUTION

Tire should be kept upright during removal. Damage to CTIS may result if tire falls on CTIS valve.

(6) Remove flat tire (8) from hub (11) and lean tire against truck.

c. Install Spare Tire and Wheel.



(1) Roll spare tire (1) up to axle where flat tire was removed.

NOTE

Make sure deep side of spare tire wheel dish is in same position as flat tire wheel dish when flat tire was removed.

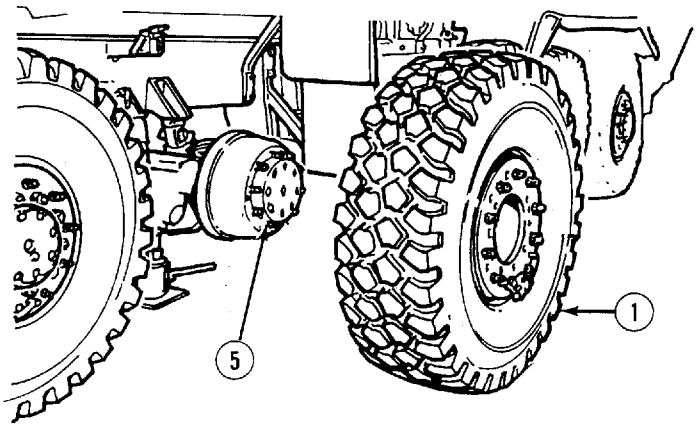
(2) Line up CTIS holes (2) in spare tire (1) with CTIS fittings (3) in hub (4).

WARNING

Tire assembly weighs 500 lbs. (227 kg). Do not try to lift or catch tire assembly. Injury to personnel could result.

(3) Lean top of spare tire (1) against studs (5) and hub (4).

3-5. TIRE REPLACEMENT (CONT).



WARNING

- Jack is under heavy pressure, keep hand clear while raising or lowering jack slowly to avoid injury to personnel.
- Do not lower jack too quickly as tire could fall causing serious injury or death.

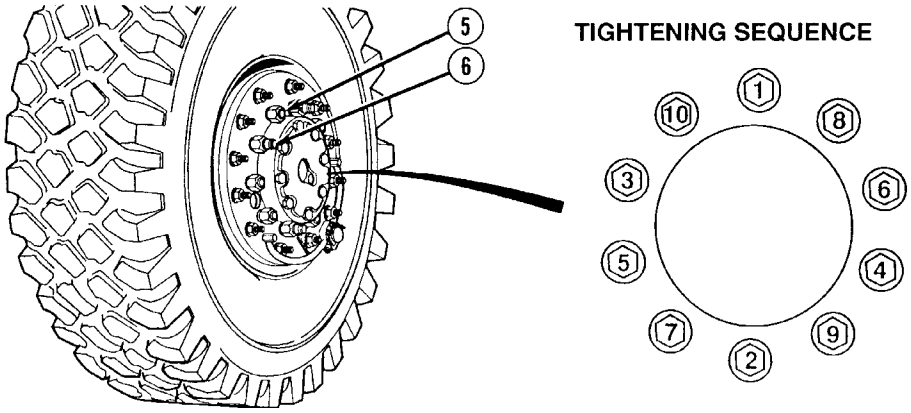
CAUTION

If jack must be raised, shut off truck prior to moving under truck.

NOTE

- Jack may have to be raised slightly to accommodate the spare tire.
- The extension handle may be placed near the bottom of the tire to either side and raised up to move the tire forward on hub and studs.

(4) Slide spare tire (1) onto studs (5).



NOTE

Studs and lug nuts on both sides of truck have right-hand threads. Rotate lug nuts counterclockwise to loosen, clockwise to tighten.

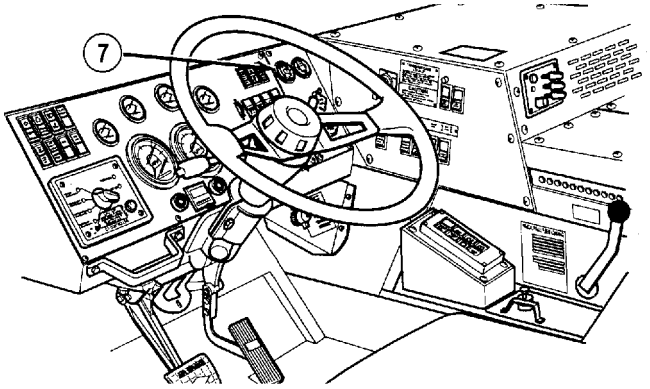
(5) Install ten lug nuts (6) finger tight on studs (5).

(6) If truck was shut off, start engine and build air pressure to 125 psi (862 kPa) (Para 2-15).

NOTE

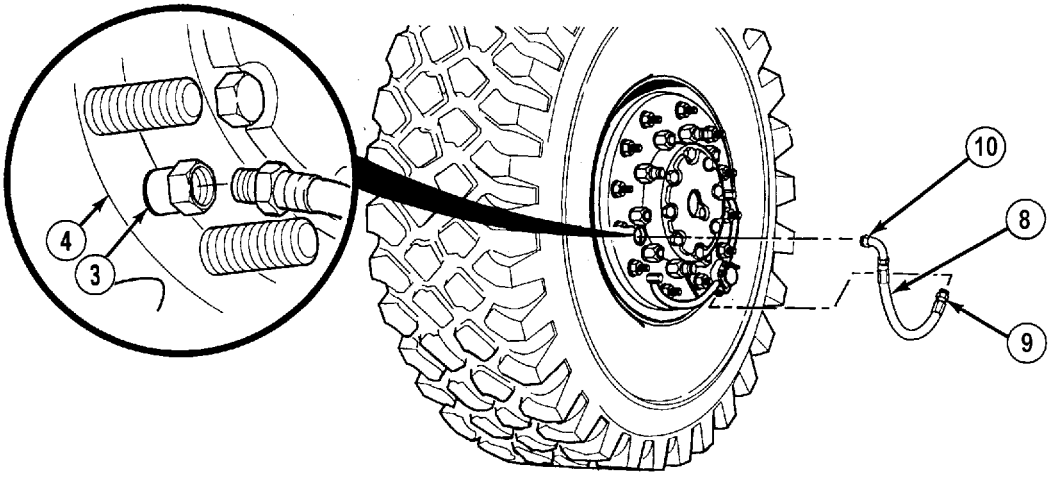
When mission is completed, take truck to nearest Unit Maintenance to have the lug nuts properly tightened to 450 to 550 lb-ft. (610 to 746 N·m).

(7) Using air wrench and 1-1/2 in. socket, tighten ten lug nuts (6) using sequence shown.



(8) Allow air pressure gage (7) to reach 120 psi (827 kPa) and repeat Step (7).

3-5. TIRE REPLACEMENT (CONT).

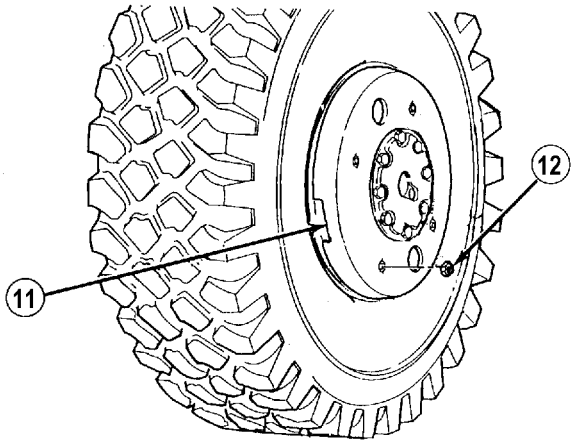


(9) Install two hoses (8) to CTIS fittings (3) in hub (4) using 7/8 in. by 3/4 in. open end wrench and 3/4 in. tube wrench.

CAUTION

When tightening CTIS hose be careful not to twist hoses. Use adjustable wrench to hold hose fitting in place or damage to equipment may result.

(10) Tighten two nuts (9) and (10) on hoses (8).



NOTE

Ensure hole in wheel cover is aligned with tire valve.

(11) Position wheel cover (11) and tighten four wheel cover nuts (12).

CAUTION

When using air wrench to tighten wheel cover nuts, be careful not to over-tighten nuts. Damage to nut and stud may occur if wheel cover nuts are over-tightened.

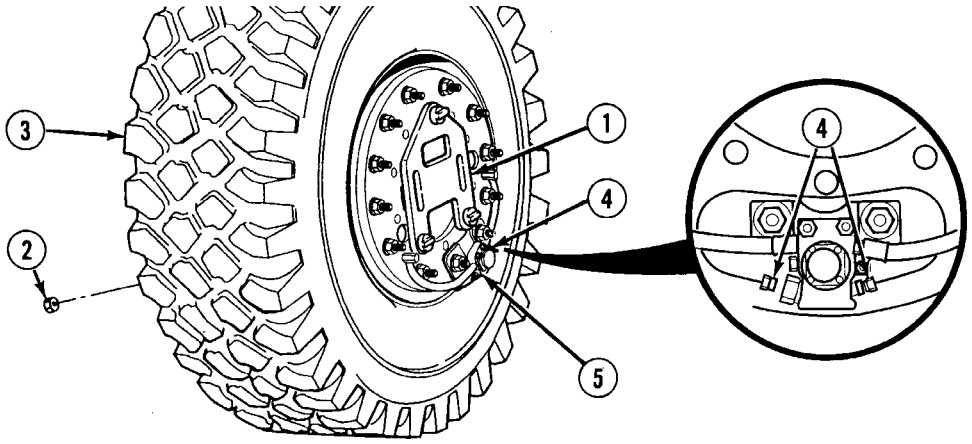
NOTE

When mission is completed, take truck to nearest Unit Maintenance to have wheel cover nuts properly tightened to 170 to 180 lb-ft (231 to 244 N·m).

(12) Tighten four wheel cover nuts (12) using air wrench and 33 mm socket.

3-5. TIRE REPLACEMENT (CONT).

d. Stow Tire Using Tire Davit.



NOTE

Ensure pointed end of mounting plate is pointed to the third hole (left or right side) from the center of the wheel valve to prevent damage to valve from cable.

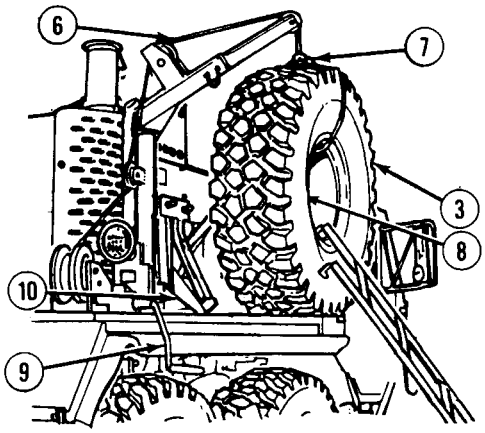
(1) Using air wrench and socket, install mount plate (1) and three nuts (2) on flat tire (3).

CAUTION

Be careful not to twist the CTIS plug tethering cables. Failure to comply may result in damage to equipment.

(2) Install two plugs (4) to CTIS valve (5) using 7/8 in. by 3/4 in. open end wrench.

(3) Roll flat tire (3) under hoist arm so deep side of wheel dish is facing out and away from truck.



NOTE

Cable is routed through smaller square hole in mount plate with single mounting stud facing up.

(4) Pull cable (6) and hook (7) through small square hole in mount plate (8) and around flat tire (3).

CAUTION

Ensure cable is connected at point where rubber casing covers cable or damage to cable could result.

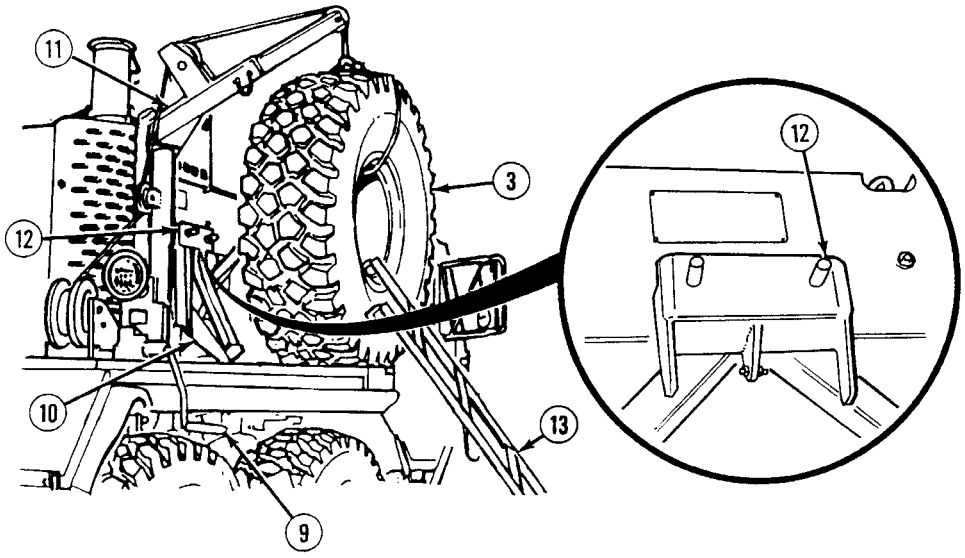
(5) Attach the hook (7) to the cable (6) above flat tire (3).

WARNING

- Stand clear of tire when raising or lowering or injury to personnel may result.
- Do not let tire hang in midair for long period of time. Place tire on carrier or on ground as soon as possible. Tire is very heavy and could cause serious injury if it falls.

(6) Turn hand crank (9) clockwise to raise flat tire (3) just above carrier (10).

3-5. TIRE REPLACEMENT (CONT).



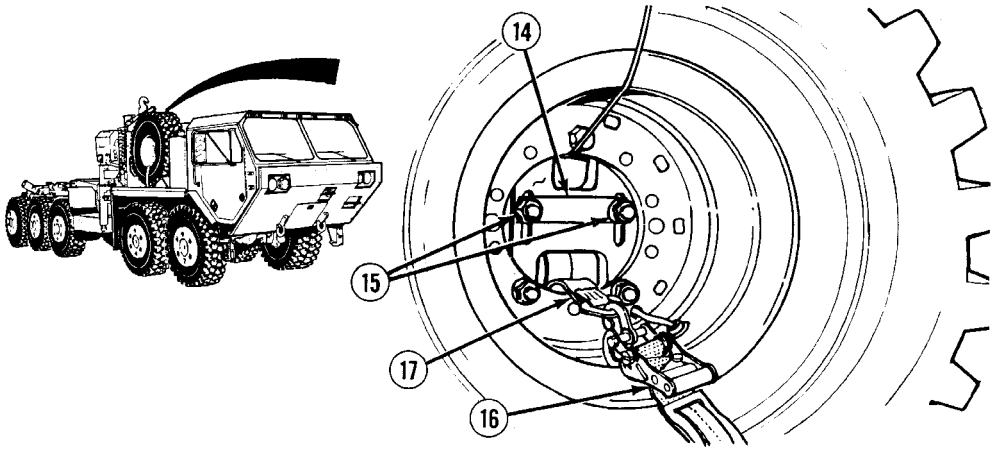
NOTE

- Use the ladder to push tire over carrier.
- If tire will not move or is too hard to move, install ladder to left side of truck and pull hoist in.

(7) Swing hoist arm (11) so flat tire (3) is over carrier (10) and aligned with studs (12).

(8) Install ladder (13) to right side of truck.

(9) Turn hand crank (9) counterclockwise to lower flat tire (3) into carrier (10).



CAUTION

Before installing plate, ensure that the CTIS plug tether cables are clear of the spare tire mounting plate and tire carrier mounting surface to prevent damage to the CTIS tether cables.

NOTE

When mission is complete, have Unit Maintenance torque nuts.

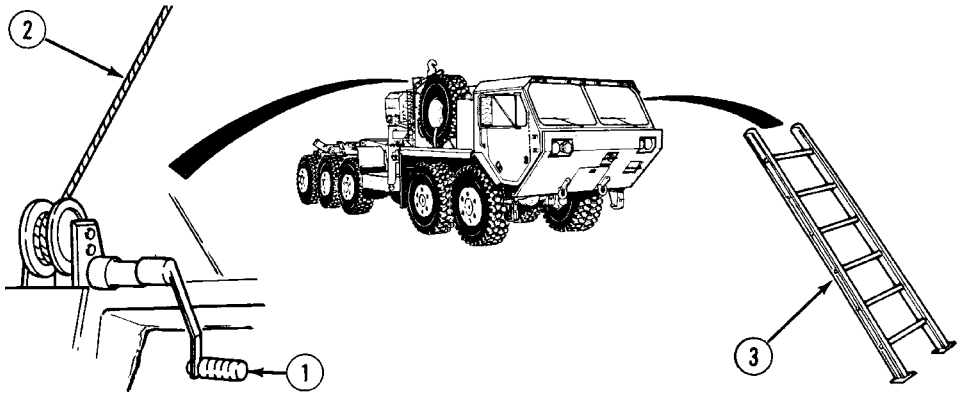
(10) Install plate (14) with two nuts (15). Tighten nuts using air wrench and socket.

(11) Connect rachet strap (16) to strap (17) and tighten securely.

(12) Shut off truck (Para 2-23).

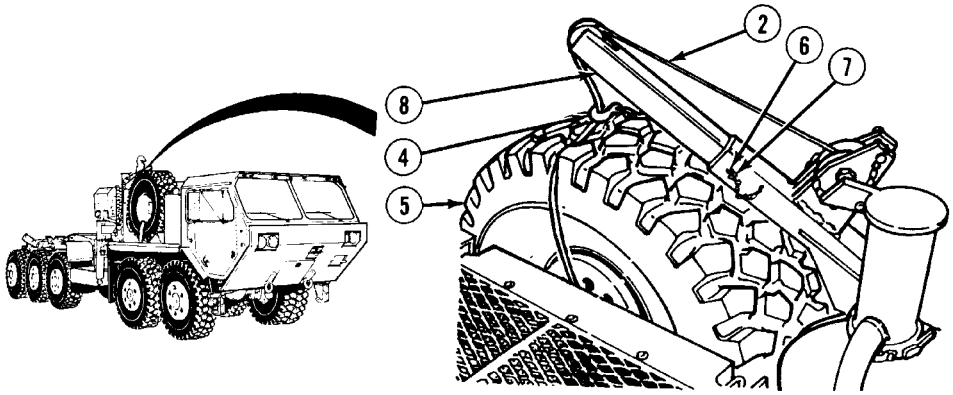
3-5. TIRE REPLACEMENT (CONT).

e. Stow Tire Davit.



(1) Turn hand crank (1) three times counterclockwise to loosen cable (2).

(2) Install ladder (3) to left side of truck.

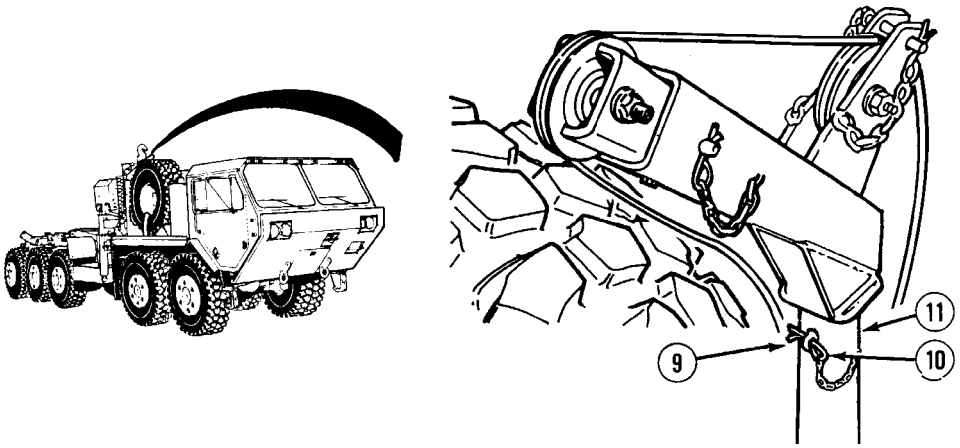


(3) Remove hook (4) from cable (2).

(4) Remove cable (2) from around tire (5).

(5) Remove safety pin (6) and pin (7) from extension arm (8).

(6) Push extension arm (8) in and install pin (7) and safety pin (6).

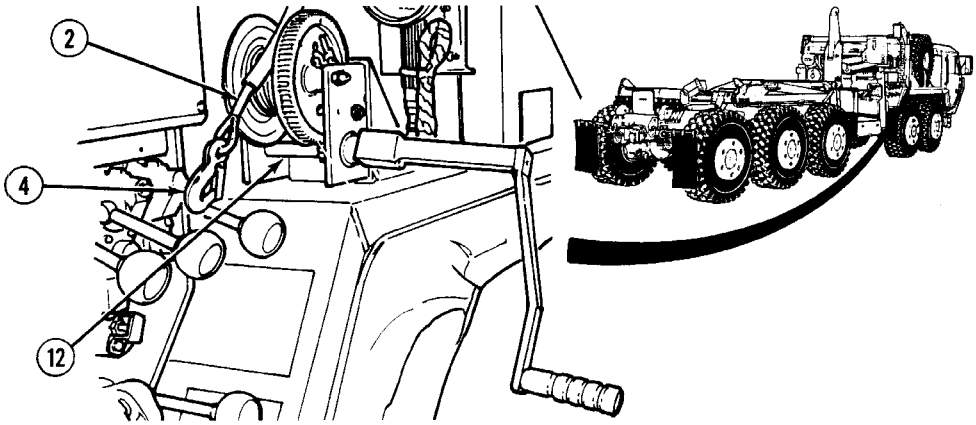


WARNING

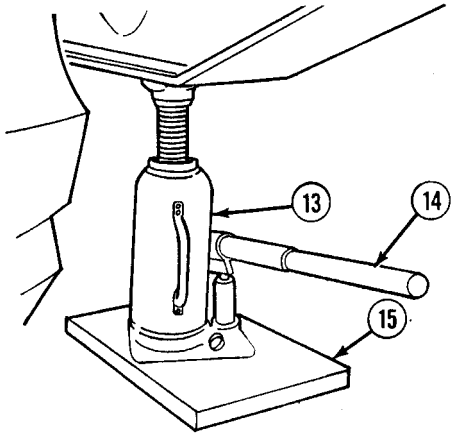
Do not touch hot exhaust system with bare hands; injury to personnel will result.

(7) Install pin (9) and safety pin (10) in hoist (11).

3-5. TIRE REPLACEMENT (CONT).



(8) Attach hook (4) to winch (12) and wind up cable (2).

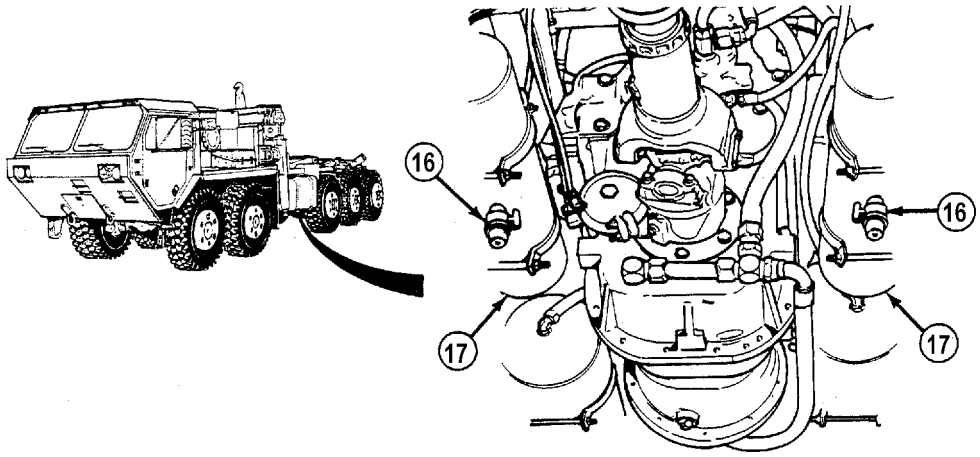


WARNING

- Jack is under heavy pressure, keep hand clear while lowering jack slowly to avoid injury to personnel.
- Do not lower jack too quickly as tire could fall causing serious injury or death.

(9) Lower truck to ground.

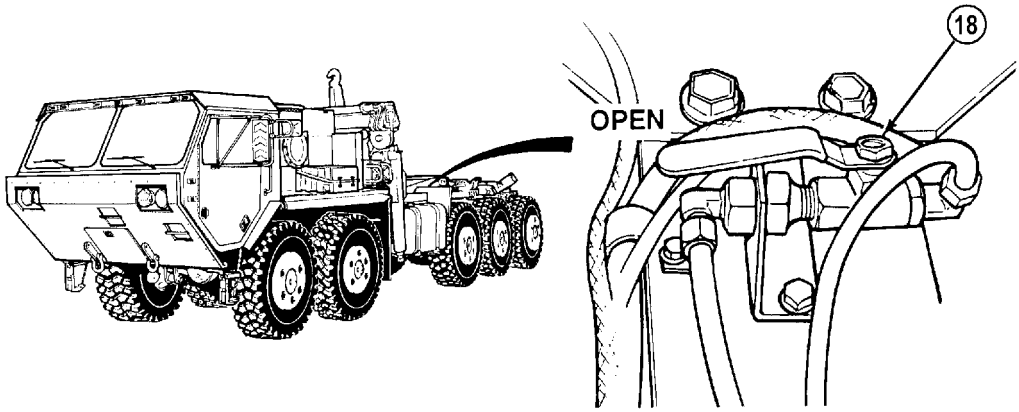
(10) Remove jack (13), handle (14) and base plate (15) from under truck.



NOTE

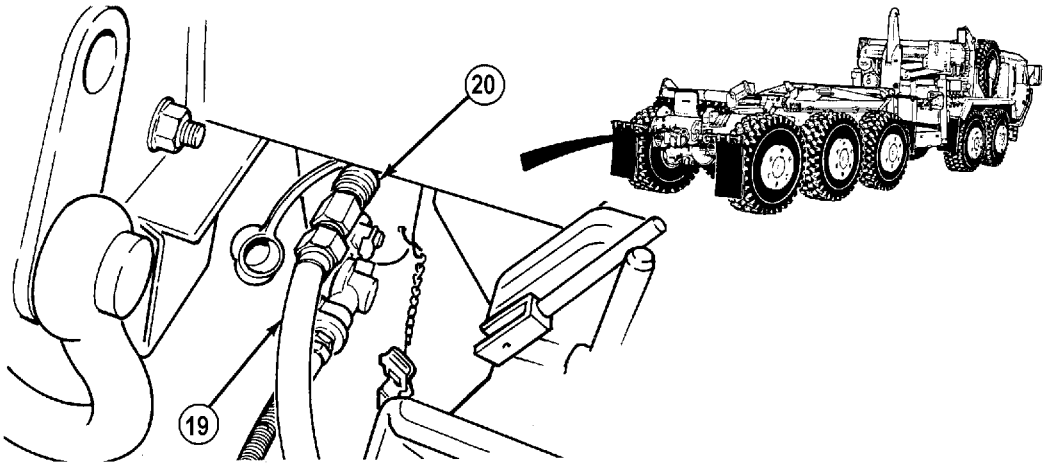
Perform Steps (11) and (12) if ball valve was closed and drain valves were opened.

(11) Close drain valves (16) on both air tanks (17) (rear tank both sides of truck).



(12) Open ball valve (18) located on top of crossmember behind transfer case.

3-5. TIRE REPLACEMENT (CONT).



(13) Disconnect air hose (19) from truck air coupler (20).

f. Follow-On Maintenance:

- Turn on CTIS, (Para 2-24).
- Return tools and wheel chocks to glove box and stowage box, (Para 2-22).
- Stow ladder, (Para 3-6).
- Stow highway safety markers, (Para 2-54).
- Release parking brakes, (Para 2-16).
- Have Unit Maintenance torque all tire lugnuts and spare tire lugnuts at earliest opportunity.

END OF TASK

3-6. STOW AND USE LADDER.

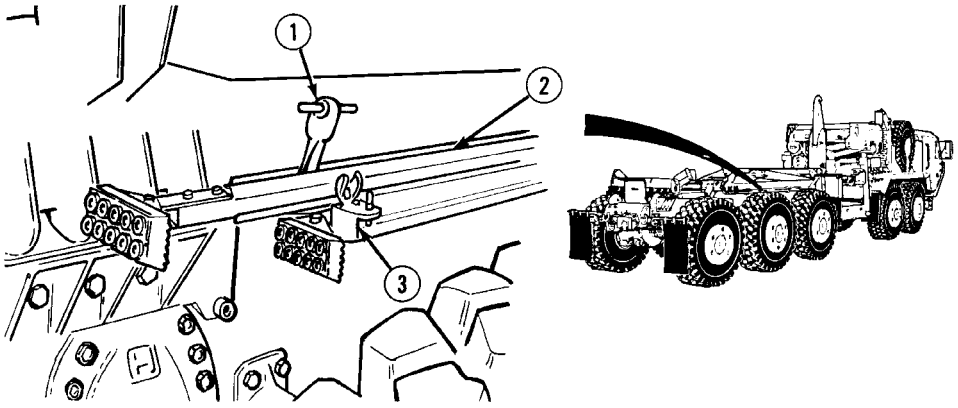
This task covers:

a. Remove Ladder b. Stow Ladder

INITIAL SETUP

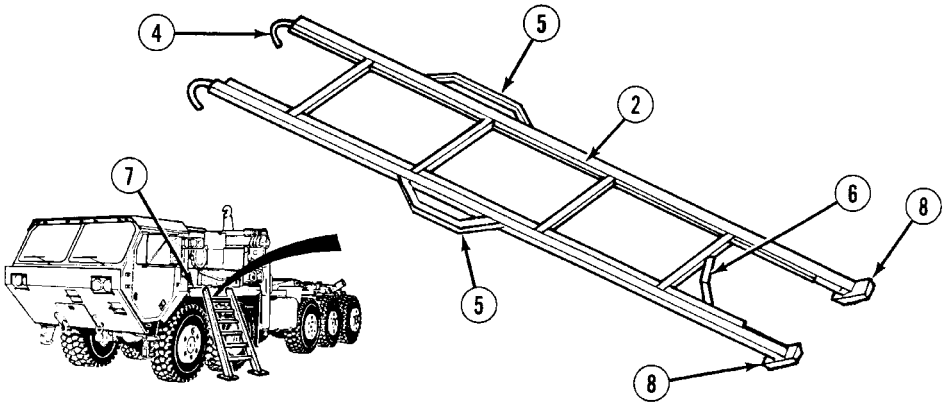
Equipment Condition
Wheels Chocked, (Para 2-22)
Engine OFF, (Para 2-23)

a. Remove Ladder.



(1) Pull up on two rubber retainers (1) and lift off ladder (2) from two stowage brackets (3).

3-6. STOW AND USE LADDER (CONT).



(2) Position ladder (2) on the ground with hooks (4) facing towards truck.

(3) Position hands on ladder handles (5) and pull down left ladder handle (5) until ladder (2) is in the open position.

WARNING

Keep fingers away from pivot points of lock holding latch. Fingers may be pinched causing injury to personnel.

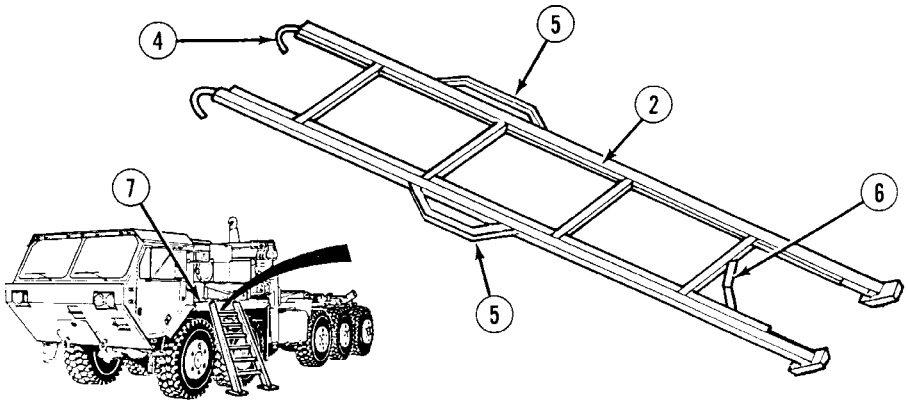
(4) Lock holding latch (6) at bottom of ladder (2).

WARNING

- Ladder is only intended for use on the PLS. The two hooks on the ladder must be installed in the holes located on top of the fender prior to use. Using the ladder for other applications could result in serious injury to personnel.
- Ensure that ladder is clean and free of debris or personnel may slip and cause injury.

(5) Install two hooks (4) in holes on fender (7).

(6) Position ladder shoes (8) securely on ground.



b. Stow Ladder.

(1) Remove ladder (2) from fender (7).

WARNING

Keep fingers away from pivot points of lock holding latch. Fingers may be pinched causing injury to personnel.

(2) Release holding latch (6) at bottom of the ladder (2).

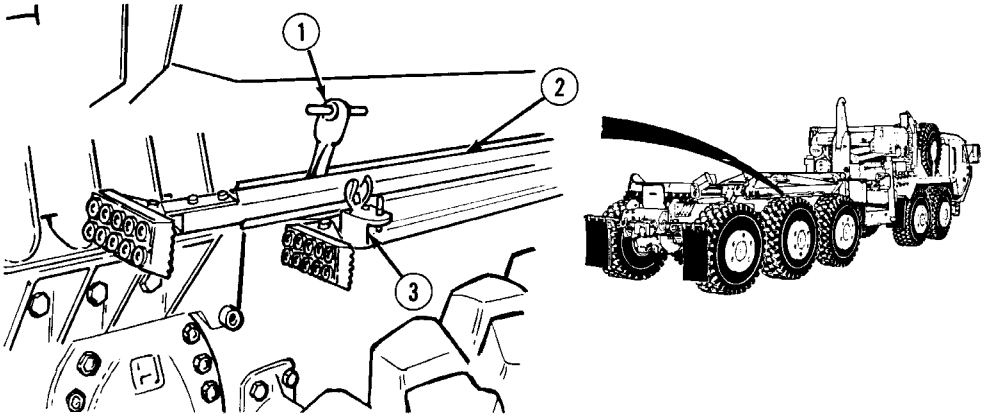
(3) Position ladder (2) on the ground in the upright position with hooks (4) facing toward truck.

WARNING

Keep hands and fingers clear of ladder rungs and sides when placing ladder in the stowed position or injury to personnel may result.

(4) Position hands on ladder handles (5) and lift up on left ladder handle (5) until ladder (2) is in the stowed position.

3-6. STOW AND USE LADDER (CONT).



(5) Install ladder (2) on two stowage brackets (3) and pull rubber retainers (1) into position.

END OF TASK

3-7. DRAINING AIR SYSTEM PRESSURE TO ZERO.

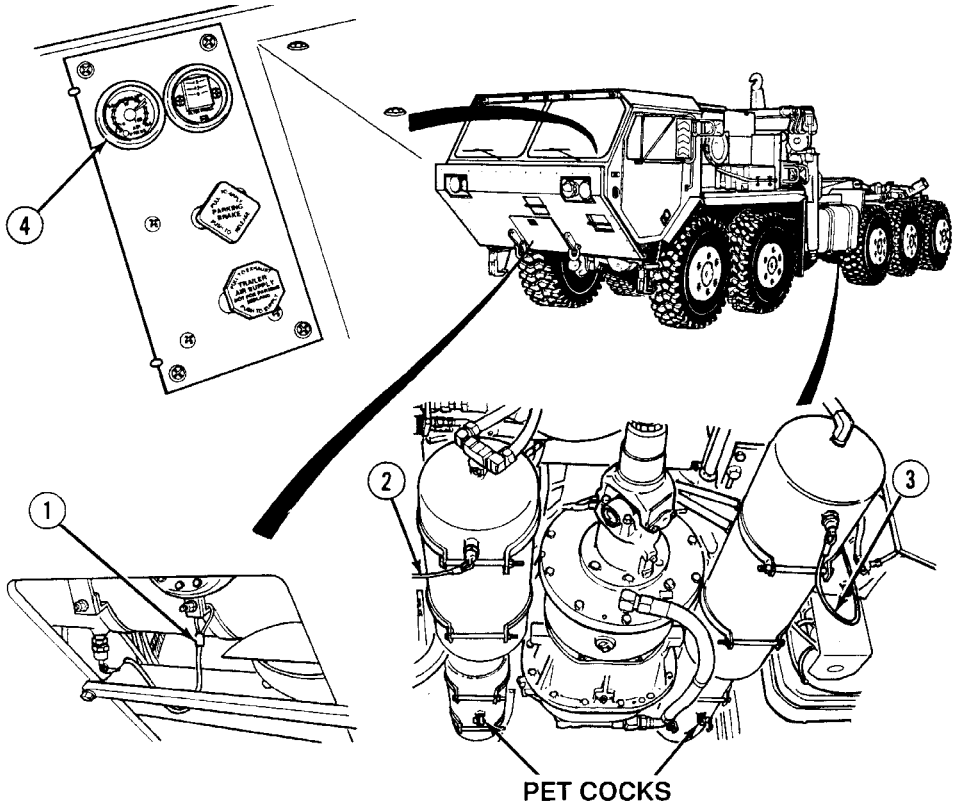
This task covers:

a. Draining

INITIAL SETUP

Equipment Condition
Wheels Chocked, (Para 2-22)
Engine OFF, (Para 2-23)

a. Draining.



(1) Pull reservoir drain cable (1) at front of truck until all compressed air is released.

(2) Pull two drain cables (2) through (3) at left and right of truck until all compressed air is released.

(3) Check air pressure gage (4). Green and red needles in gage should read zero.

END OF TASK

3-8. AIR WRENCH OPERATION.

This task covers:

a. Assembly

b. Follow-On Maintenance

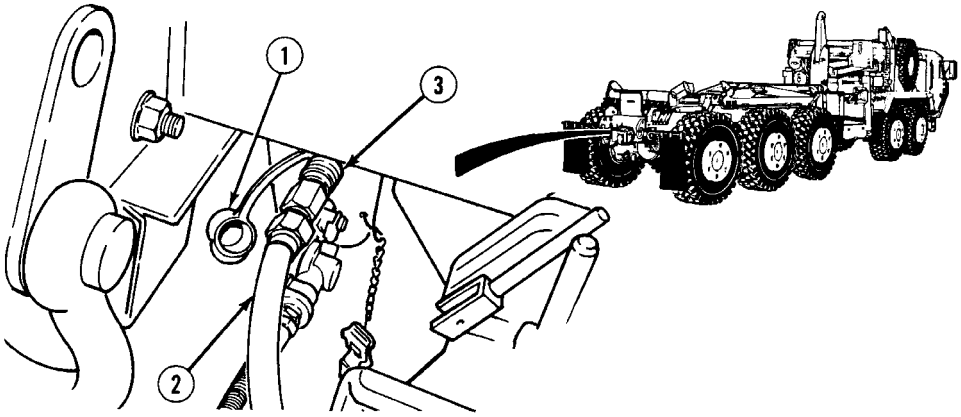
INITIAL SETUP

Tools and Special Tools
Extension, Wrench
(Item 7, Appendix B)
Air Hose Assembly
(Item 16, Appendix B)
Socket 33 mm
(Item 31, Appendix B)
Socket 1-1/2 in.
(Item 32, Appendix B)

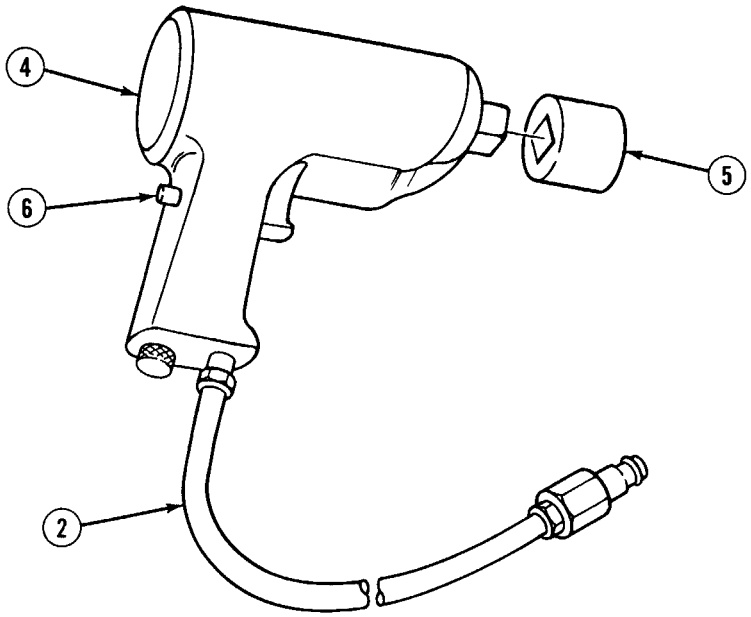
Tools and Special Tools - Continued
Wrench, Air
(Item 37, Appendix B)
Safety Goggles

Equipment Condition
Wheels Chocked, (Para 2-22)
Engine OFF, (Para 2-23)

a. Air Wrench Operation.



(1) Remove cover (1) and connect air hose (2) to truck air coupler (3).



(2) Connect air wrench (4) to other end of air hose (2).

WARNING

Use only impact sockets and impact extensions with air wrench. Failure to comply could result in injury to personnel and damage to equipment. Safety goggles must be worn when operating air wrench.

NOTE

Vehicle is supplied with a 33 mm socket, 1-1/2 in. socket and
an extension for use with the air wrench when replacing a tire.

(3) Install socket (5) on air wrench (4).

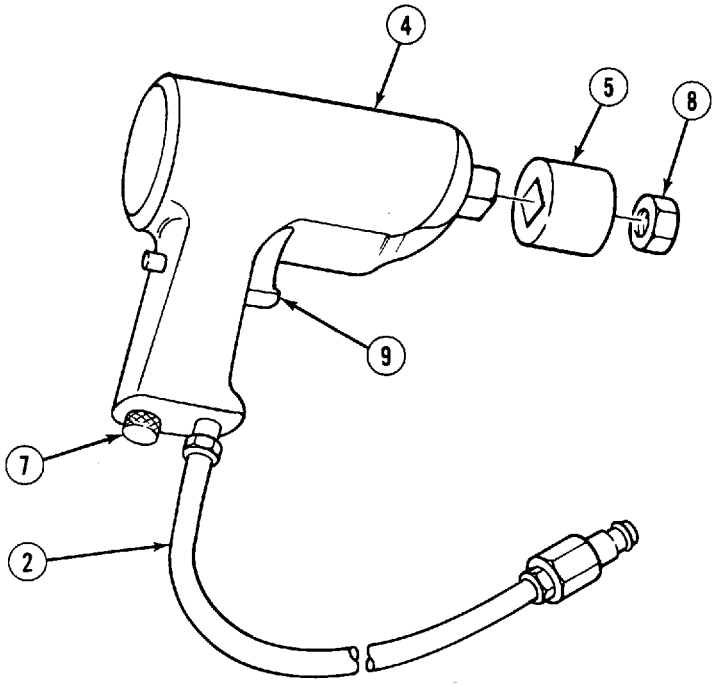
(4) Start engine and build air pressure to 125 ± 4 psi (862 ± 28 kPa) (Para 2-15).

NOTE

Reversing button pressed in at front of handle will loosen nuts. Reversing button pressed in at rear of handle will tighten nuts.

(5) Press reversing button (6) to desired position.

3-8. AIR WRENCH OPERATION (CONT).



NOTE

Regulator should be adjusted full counterclockwise for wheel replacing procedures.

(6) Adjust air regulator (7) full counterclockwise.

NOTE

- If tightening a nut, press trigger until socket no longer rotates.
- If loosening a nut, release trigger when nut is removed from stud.

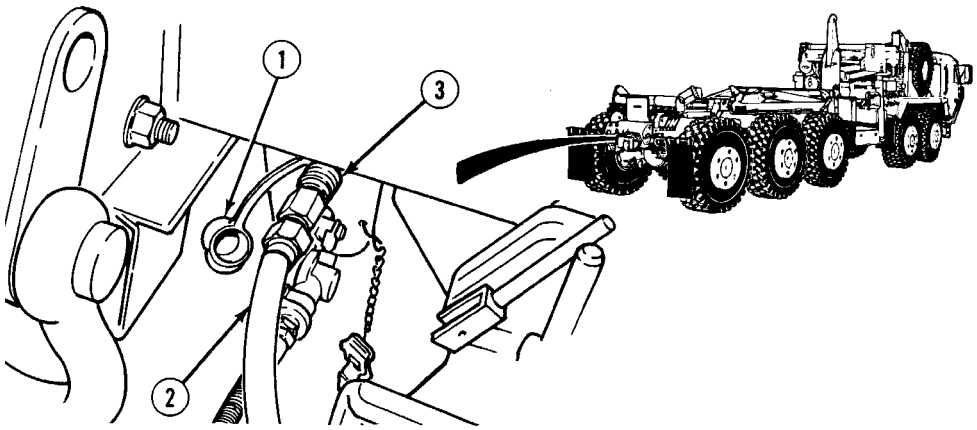
(7) Position socket (5) squarely on nut (8) and press trigger (9).

(8) Remove socket (5) from nut (8).

(9) Shut OFF engine (Para 2-23).

(10) Remove socket (5) from air wrench (4).

(11) Remove air hose (2) from air wrench (4).



(12) Remove air hose (2) from truck coupler (3) and install cover (1).

b. Follow-On Maintenance:

- Remove wheel chocks, (Para 2-22).

END OF TASK

3-9. BEACON LIGHT INSTALLATION/REMOVAL.

This task covers:

a. Removal

b. Installation

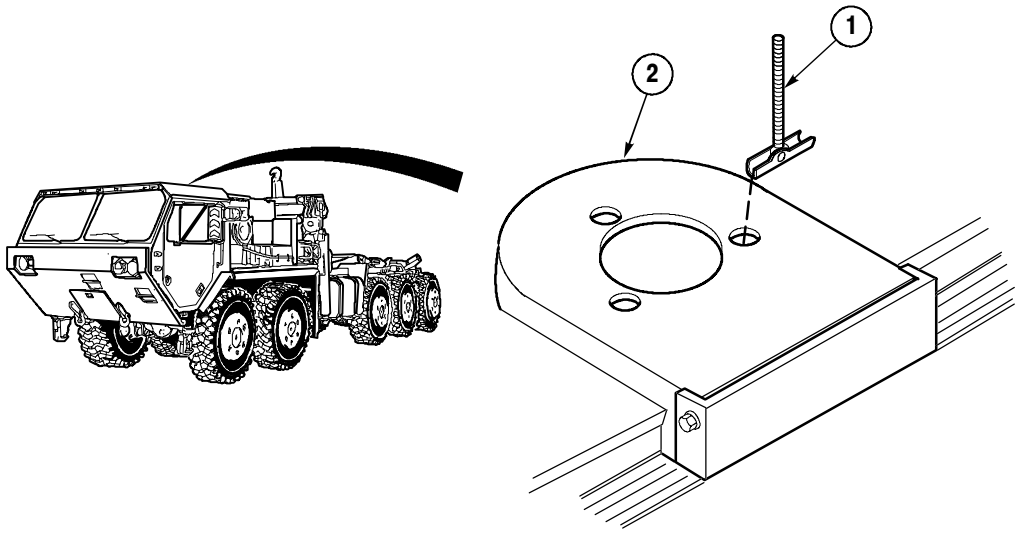
INITIAL SETUP

Tools and Special Tools
Screwdriver, Hand
(Item 25, Appendix B)
Wrench, Adjustable 8 in.
(Item 35, Appendix B)
Wrench, Combination 7/16 in.
(Item 38, Appendix B)

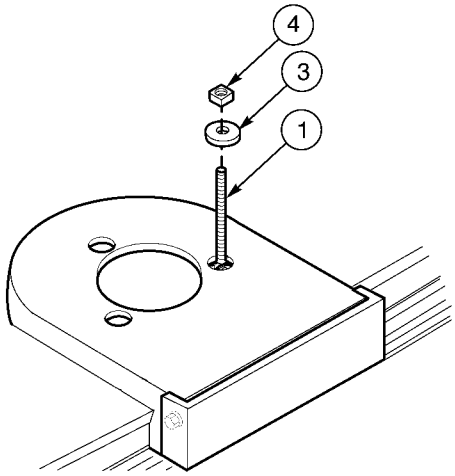
Material/Parts
Beacon Light (Appendix C)

Equipment Condition
Wheels Chocked, (Para 2-22)
Engine OFF, (Para 2-23)

a. Installation.

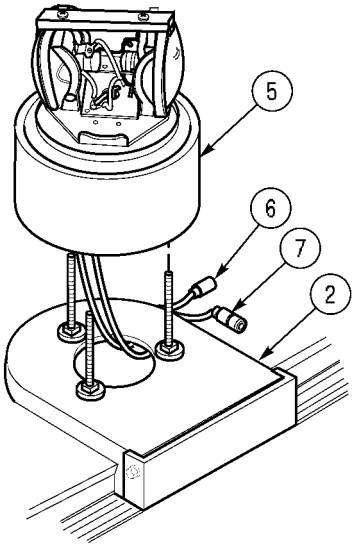


(1) Position toggle bolt (1) through hole in beacon mounting bracket (2).



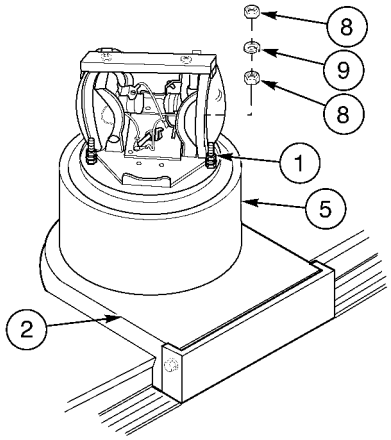
(2) Position washer (3) and nut (4) on toggle bolt (1). Tighten until washer (3) starts to compress.

(3) Repeat Steps (1) and (2) for remaining two toggle bolts (1).



(4) Position beacon light (5) over beacon mounting bracket (2) and route wires (6) and wire (7) through center hole and under right side of beacon mounting bracket (2).

3-9. BEACON LIGHT INSTALLATION/REMOVAL (CONT).



(5) Align three holes in beacon light (5) with toggle bolts (1) and position beacon light on beacon light mounting bracket (2).

(6) Install three nuts (8) on toggle bolts (1) until nut contacts beacon light (5). Turn nut one additional turn.

(7) Position three lockwashers (9) and nuts (8) on toggle bolts (1).

CAUTION

Bottom nut must be held while top nut is tightened. Failure to comply will cause damage to equipment.

(8) While holding bottom nuts (8), tighten top nuts (8) until lockwashers (9) are fully compressed.

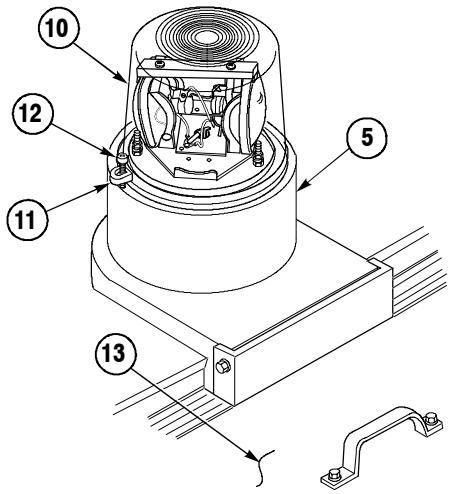
CAUTION

If toggle bolts extend more than five threads past the end of top nut, they must be cut off or rotating light will hit them. Failure to comply will cause damage to equipment.

NOTE

Perform Step (9) if toggle bolts extend more than five threads past top nut.

(9) Cut off excess toggle bolt (1).



CAUTION

Do not over-tighten screws on beacon light. Failure to comply will cause damage to equipment.

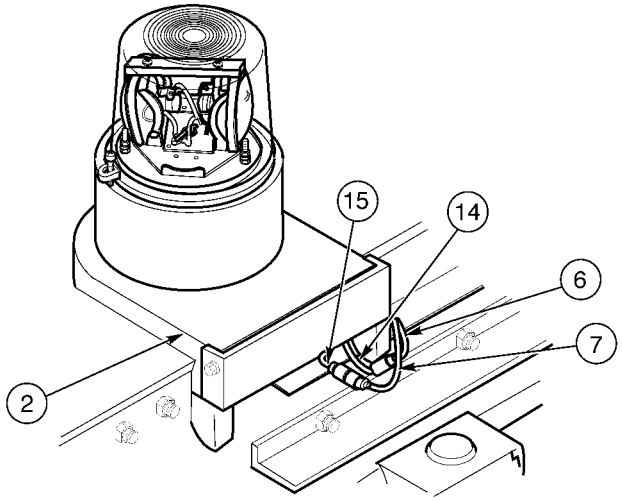
(10) Install dome (10) on beacon light (5) using two mounting clips (11) and screws (12).

WARNING

Components are extremely hot. Use caution when performing the following procedure to avoid injury.

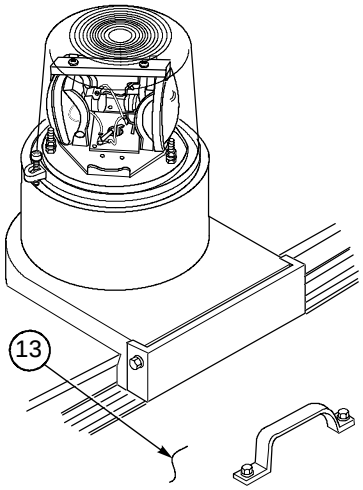
(11) Open engine cover (13).

3-9. BEACON LIGHT INSTALLATION/REMOVAL (CONT).



(12) Locate beacon light wire 1029 (14) and wire 1435 (15) under rear of beacon light mounting bracket (2).

(13) Connect wire (6) to 1029 wire (14) and wire (7) to 1435 wire (15).

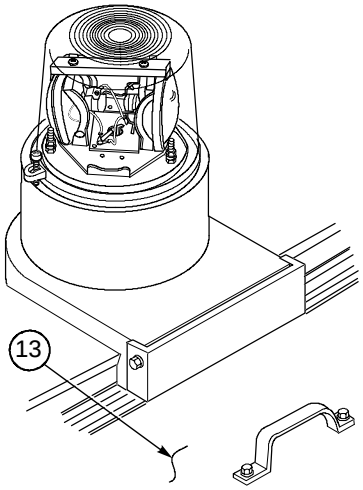


(14) Close engine cover (13).

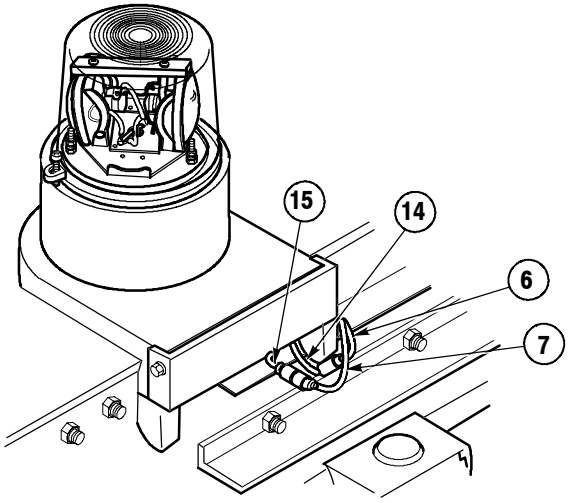
b. Removal

WARNING

Components are extremely hot. Use caution when performing the following procedure to avoid injury.

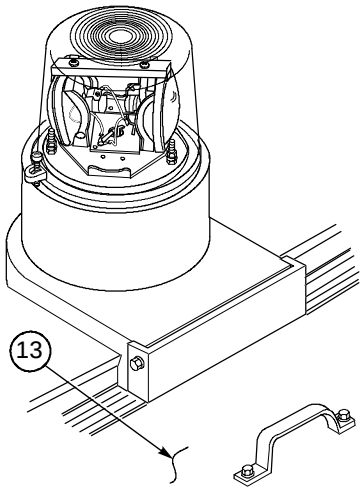


(1) Open engine cover (13).

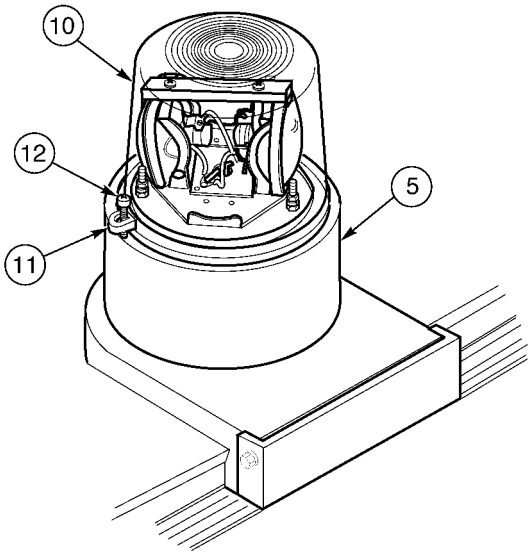


(2) Disconnect wire (7) from 1435 wire (15) and 1029 wire (14) from wire (6).

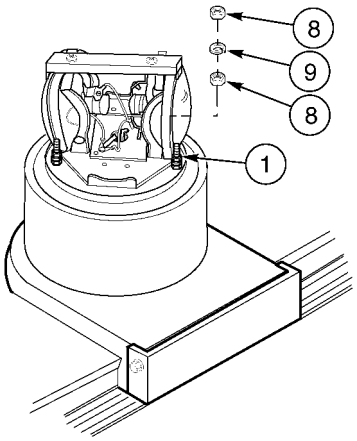
3-9. BEACON LIGHT INSTALLATION/REMOVAL (CONT).



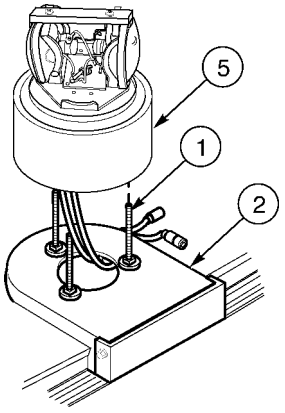
(3) Close engine cover (13).



(4) Loosen two screws (12) and mounting clips (11) and remove dome (10) from beacon light (5).

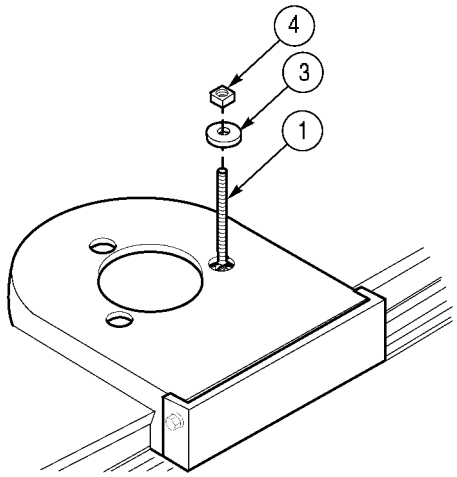


(5) Remove nut (8), lockwasher (9), and nut (8) from three toggle bolts (1).

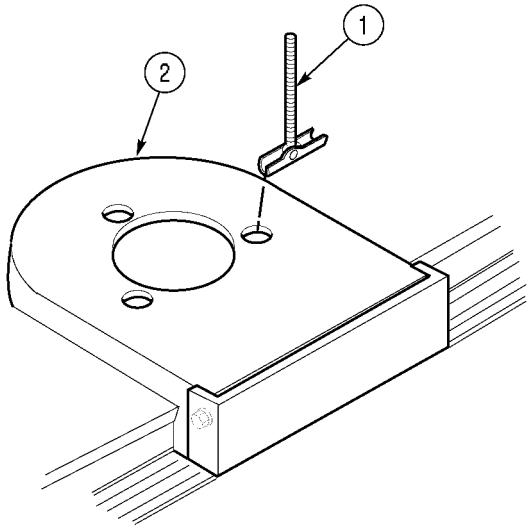


(6) Remove beacon light (5) from toggle bolts (1) and beacon mounting bracket (2).

3-9. BEACON LIGHT INSTALLATION/REMOVAL (CONT).



(7) Remove three nuts (4) and washers (3) from toggle bolts (1).



(8) Remove three toggle bolts (1) from beacon mounting bracket (2).

END OF TASK

APPENDIX A

REFERENCES

A-1. FORMS.

The following forms pertain to this manual. See DA PAM 310-1 for index of blank forms. See DA PAM 738-750, The Army Maintenance Management System (TAMMS), for instructions on the use of maintenance forms pertaining to this manual.

The Army Maintenance Management System (TAMMS) ..... DA PAM 738-750
Equipment Inspection and Maintenance Worksheet ..... DA Form 2404
Product Quality Deficiency Report ..... SF 368
Recommended Changes to DA Publications and Blank Form .... DA Form 2028
Recommended Changes to Equipment and Technical Publications ..... DA Form 2028-2

A-2. TECHNICAL MANUALS.

Arctic Heater (Model A) ..... TM 9-8662
Decontamination Unit ..... TM 3-4230-214-12&P
Deepwater Fording of Ordnance Material ..... TM 9-238
M-8 Chemical Alarm ..... TM 3-6665-225-12
Machine Gun Mount ..... TM 9-1005-245-14
Maintenance and Repair for Lead-Acid Storage Batteries ... TM 9-6140-200-14
Operator Manual Trailer ..... TM 9-2330-385-14
Operator's Manual for Mask, Chemical - Biological ..... TM 3-4240-280-10
Operator's Manual FRS ..... TM 9-4940-568-10
Operator's Manual CROP ..... TM 9-3990-260-14
Deleted
Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use ..... TM 750-244-6
Radio ..... TM 11-5820-498-12
Technical Manual FLATRACK (IPF) ..... TM 9-3990-206-14&P

A-3. FIELD MANUALS.

Basic Cold Weather Operation Manaul ..... FM 31-70
Desert Operations (FM 7-727) ..... FM 90-3
First Aid for Soliders ..... FM 21-11
Manual for Wheel Vehicle Driver ..... FM 21-305
Northern Operations ..... FM 31-71
Operation and Maintenance of Ordnance Material in Cold Weather (0 Degrees F to Minus 65 Degrees F) ..... FM 9-207
Vehicle Recovery Operations ..... FM 20-22

A-4. MISCELLANEOUS PUBLICATIONS.

Army Acquistion Policy ..... AR 70-1
Army Medical Department Expendable /Durable Items ..... CTA 8-100
Expendable /Durable Items (Except Medical, Class V, Repair Parts and Heraldic Item ..... CTA 50-790
Prevention of Motor Vehicle Accidents ..... AR 385-55
Safety Inspection and Testing of Lifting Devices ..... TB 43-0142
Warranty Program for Palletized Load System (PLS) M1074 (NSN 2320-01-304-2277) M1075 (NSN 2320-01-304-2278) M1076 (NSN 2330-01-303-5197) M1077 NSN 2320-01-307-7676) ..... TB 9-2320-364-15

APPENDIX B

COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS

Section I. INTRODUCTION

B-1. SCOPE.

This appendix lists COEI and BII for the truck to help you inventory the items for safe and efficient operation of the equipment.

B-2. GENERAL.

The COEI and BII lists are divided into the following sections:

a. Section II - Components of End Item (COEI). This listing is for information purposes only, and is not authority to requisition replacements. These items are part of the PLS, but they are to be removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to help you find and identify the items.

b. Section III - Basic Issue Items (BII). Section III contains the BII List. These essential items are required to place the truck in operation. Although shipped separately packaged, BII must be with the truck during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the TOE/MTOE. Illustrations are furnished to help you find and identify the items.

B-3. EXPLANATION OF COLUMNS.

The following provides an explanation of columns found in the tabular listings:

a. Column (1) - Illustration Number (Illus Number). This column indicates the number of the item called out in the illustration.

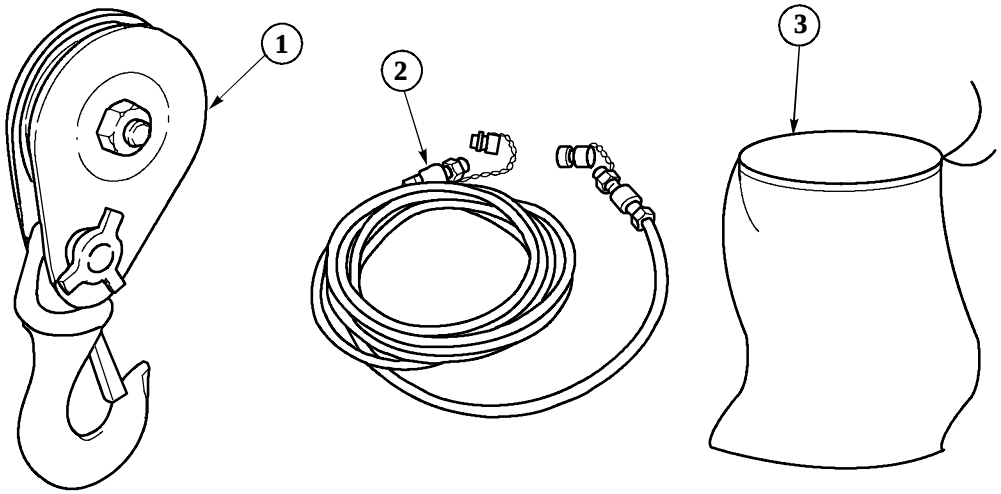
b. Column (2) - National Stock Number (NSN). Indicates the National Stock Number (NSN) assigned to the item and will be used for requisitioning purposes.

c. Column (3) - Description. Indicates the Federal item name, and, if required, a minimum description to identify and locate the item. The last line for each item indicates the Commercial and Government Entity (CAGE) Code in parentheses followed by the part number.

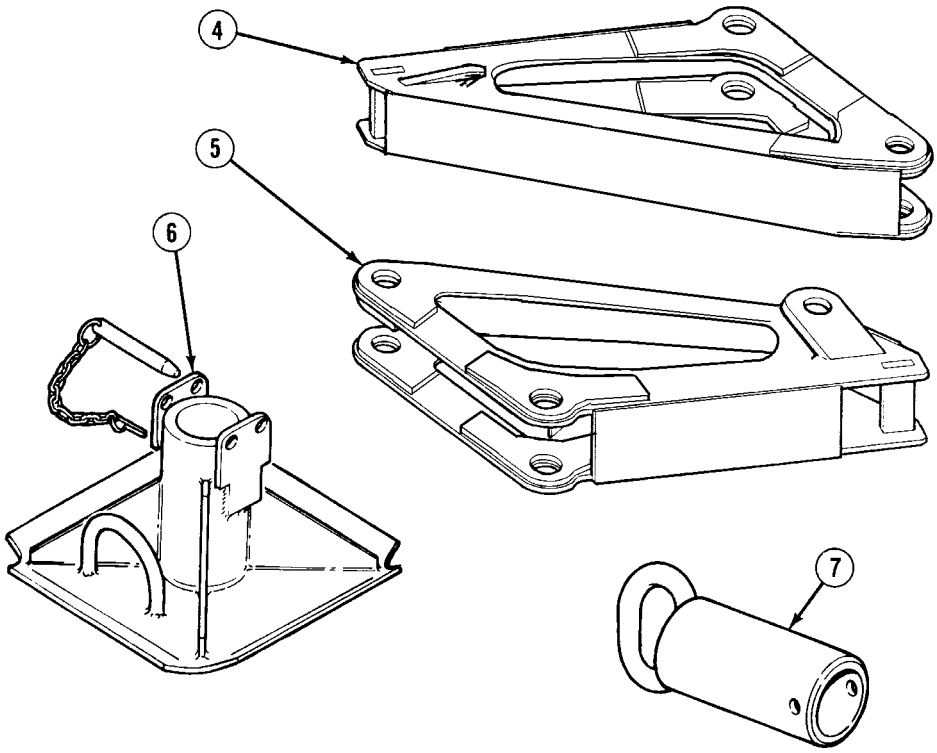
d. Column (4) - Unit of Issue (U/I). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (ea., in., pr.).

e. Column (5) - Quantity Required (Qty Rqr). Indicates the quantity of the item authorized to be used with/on the equipment.

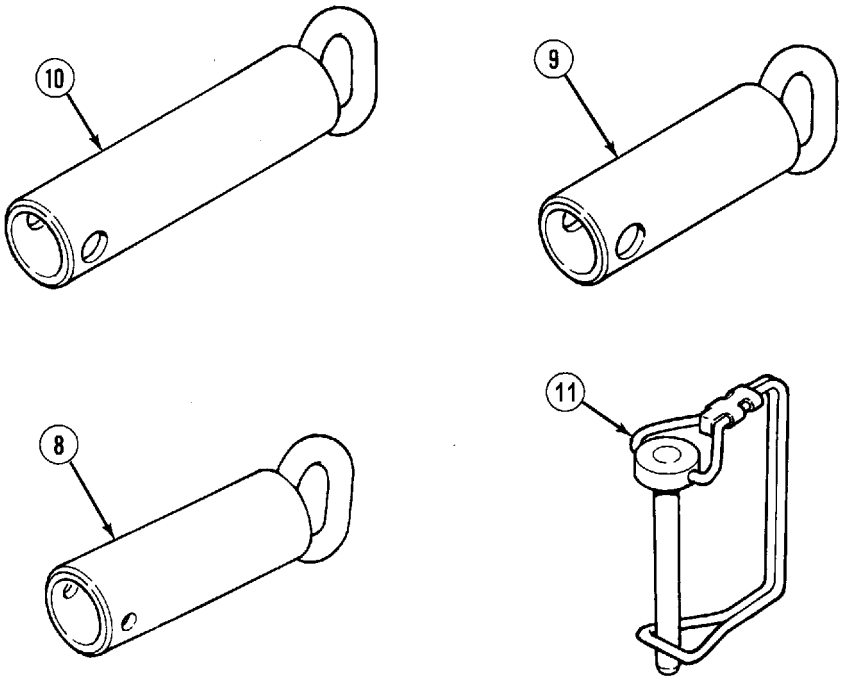
Section II. COMPONENTS OF END ITEM



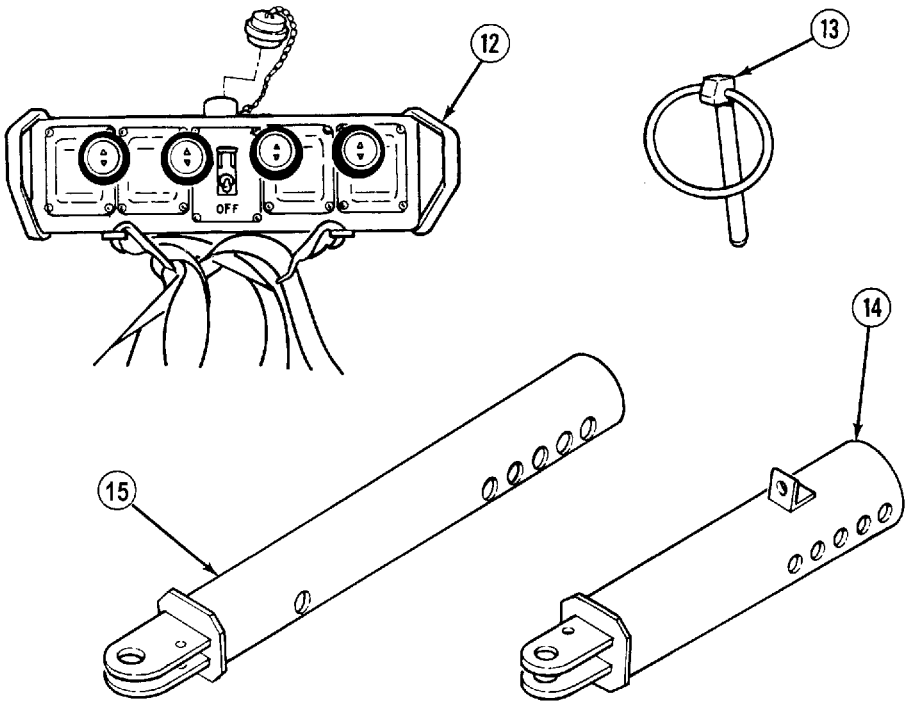
(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
1	3950-01-347-9666	Block, Snatch (with SRW only) (75535) 193418	074, 075	EA	1
2	6150-01-387-6357	Cable, Remote Control (12361) 2-195-6-00653	074	EA	1
3	8105-01-395-7063	Bag, Storage, Remote Control Cable (45152) 2070530	074	EA	1



(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
4	2510-01-359-3380	Extension Assembly, LH (45152) 1990400W	074, 075	EA	1
5	2510-01-359-2074	Extension Assembly, RH (45152) 1990390W	074, 075	EA	1
6	2590-01-352-1262	Outrigger Pad Assembly (12361) 2-195-1-00070	074	EA	2
7	5315-01-358-3567	Pin Assembly (45152) 1764990W	074, 075	EA	2

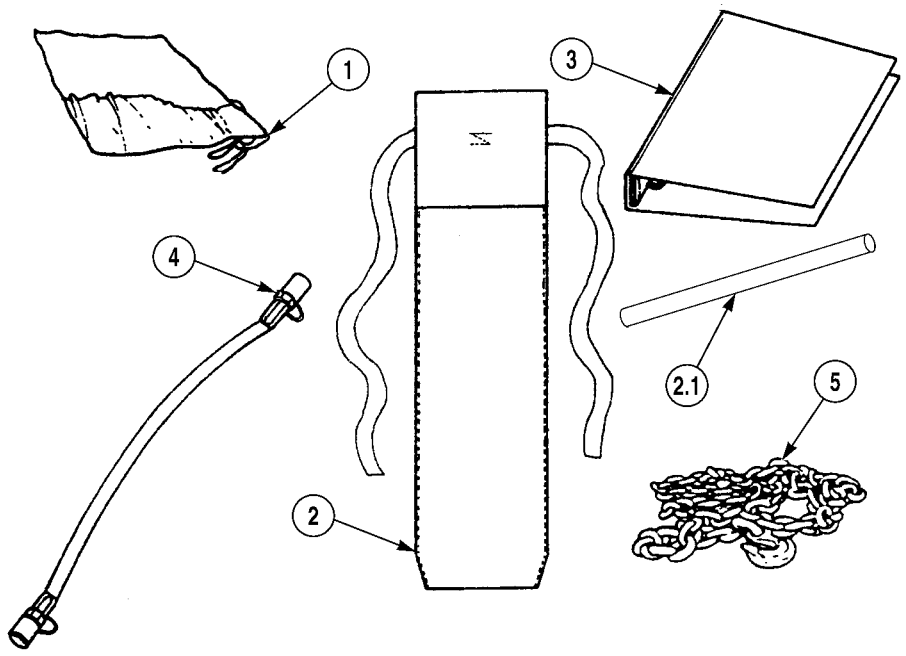


(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
8	5315-01-358-5638	Pin Assembly (45152) 1765010W	074, 075	EA	2
9	5315-01-411-2482	Pin Assembly (45152) 1987030W	074, 075	EA	4
10	5315-01-419-8204	Pin Assembly (45152) 1987060W	074, 075	EA	2
11	5315-01-358-3736	Pin, Snapper (96652) 28-07	074, 075	EA	4

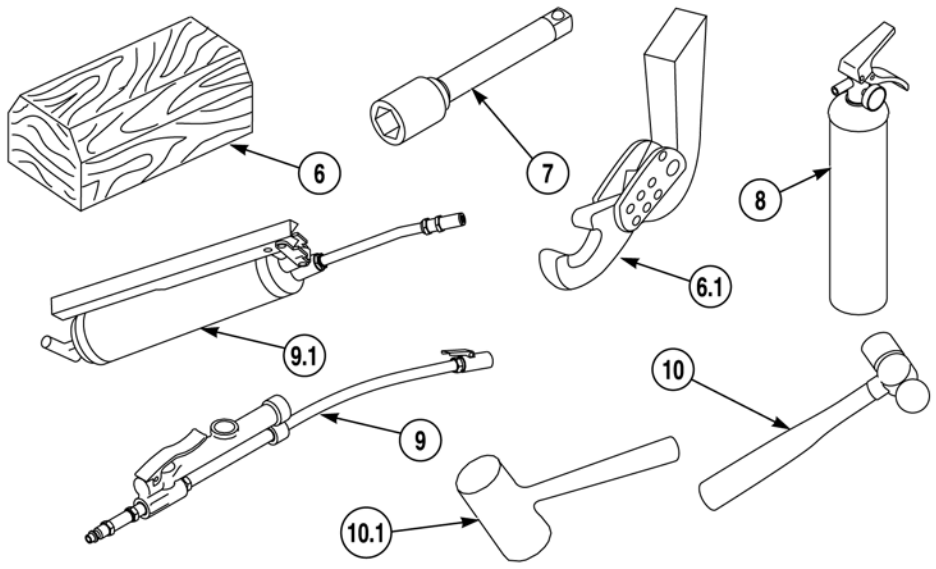


(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
12	2540-01-394-7958	Remote Control Box Assembly (12361) 2-195-600661	074	EA	1
13	5365-01-250-1670	Ring, Retaining (55183) 85090307	074, 075	EA	6
14	2510-01-359-3317	Strut Assembly (45152) 1987500W	074, 075	EA	2
15	2510-01-359-3318	Strut Assembly (45152) 1987520W	074, 075	EA	2

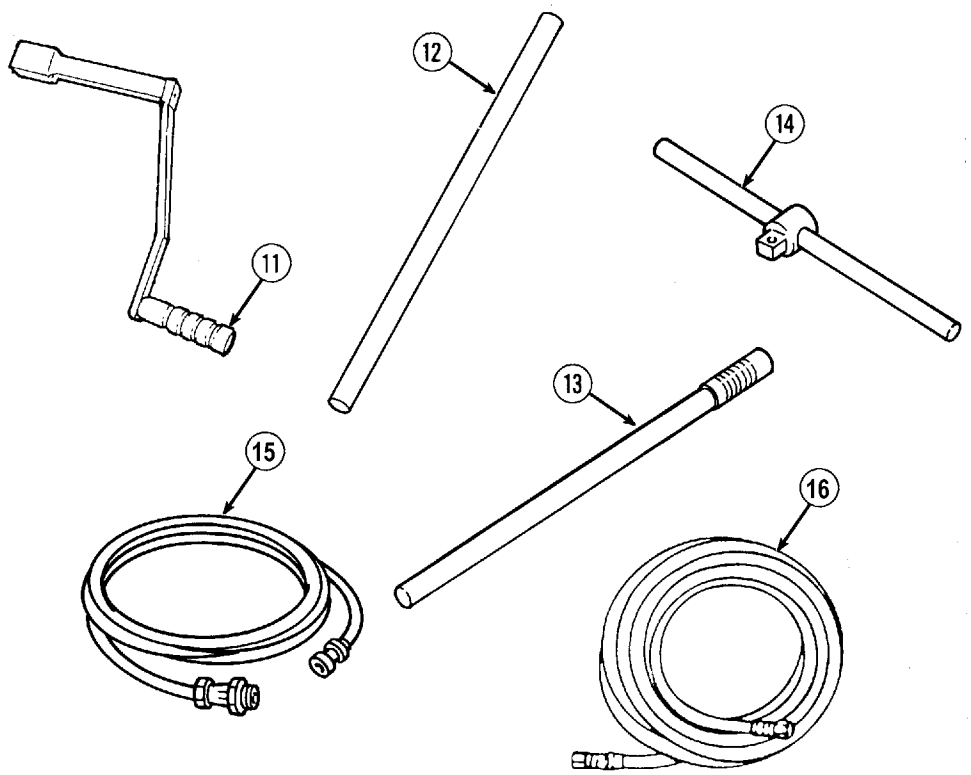
Section III. BASIC ISSUE ITEMS



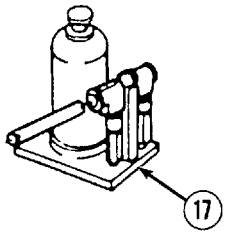
(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
1	5140-00-650-5103	Bag, Tool (45152) 1898680	074, 075	EA	1
2	8105-01-394-5929	Bag, Tool (0B4P8) 199-1290	074, 075	EA	1
2.1	5310-01-460-7706	Bar, Pin (19200) 12468755	074, 075	EA	1
3	7510-00-889-3494	Book, Log (19207) 11677003	074, 075	EA	1
4	4720-01-341-4913	Cable, Slave, Hydraulic (45152) 1789130U	074, 075	EA	1
5	4010-01-249-0548	Chain, Utility (80535) 00044-9973	074, 075	EA	1

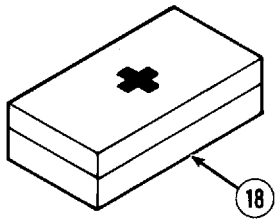


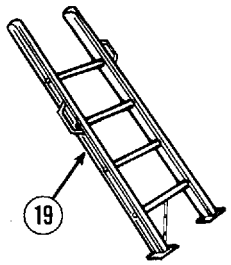
(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
6	2540-01-165-6136	Chock, Wheel (45152) 1350250	074, 075	EA	4
6.1	2540-01-471-5071	Extension, Hook Arm (0BJH4) 12468660	074, 075	EA	1
7	5130-01-400-0129	Extension, Wrench (1CV05) 07569	074, 075	EA	1
8		Extinguisher, Fire (54905) FE A 403 T	074, 075	EA	1
9	4910-01-386-4300	Gage, Tire Inflator/Deflator (63900) I-405-M	074, 075	EA	1
9.1	4930-00-253-2478	Gun, Grease (36251) 1142	075	EA	1
10	5120-01-355-2036	Hammer, 2 lbs. (55719) BP32B	074, 075	EA	1
10.1	5120-00-293-3396	Hammer, Wooden Handle, Soft Faced (49181) KT171714	074, 075	EA	1

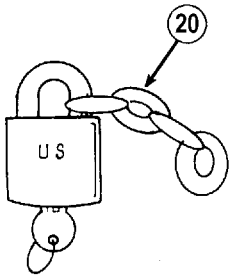


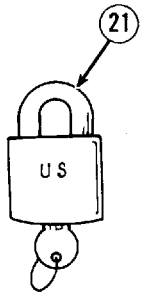
(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
11	5340-01-372-3987	Handle (72031) 5703533	074, 075	EA	1
12	5340-01-209-7841	Handle, Extension, Jack (45152) 1347720	074, 075	EA	1
13	4320-01-351-8600	Handle, Pump (95745) CP13-23	074	EA	1
14	5120-00-709-4072	Handle, Sliding (55719) L52BH	074, 075	EA	1
15	6150-01-180-6035	Harness Assembly, Worklamp (45152) 1419770U	074, 075	EA	1
16	4720-01-341-4912	Hose Assembly (45152) 1759750 U	074, 075	EA	1

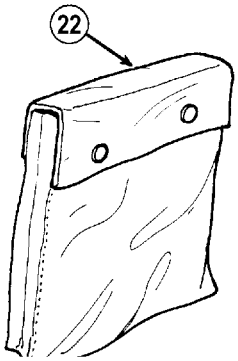




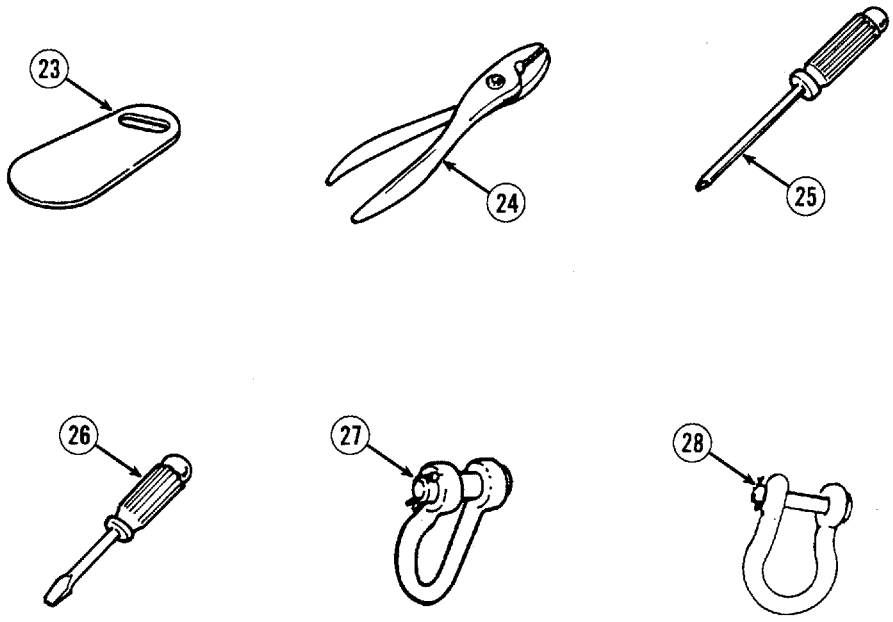




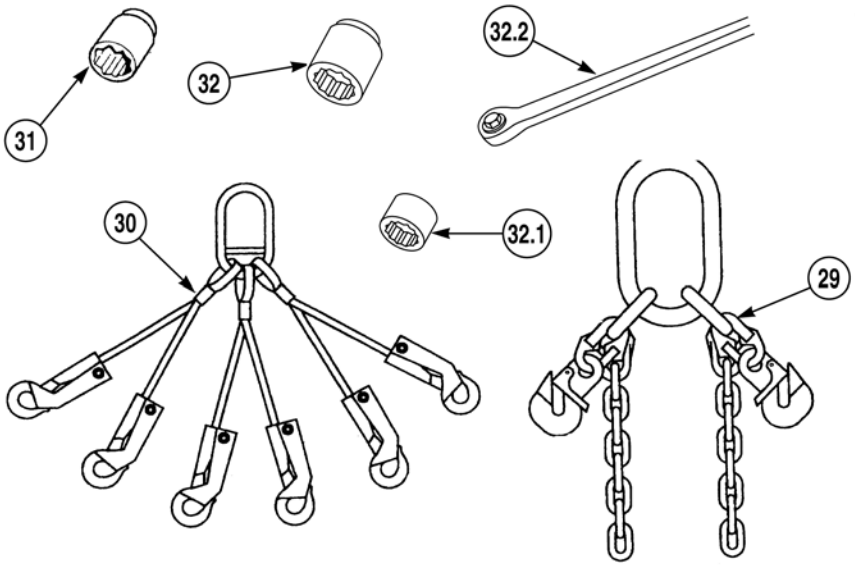




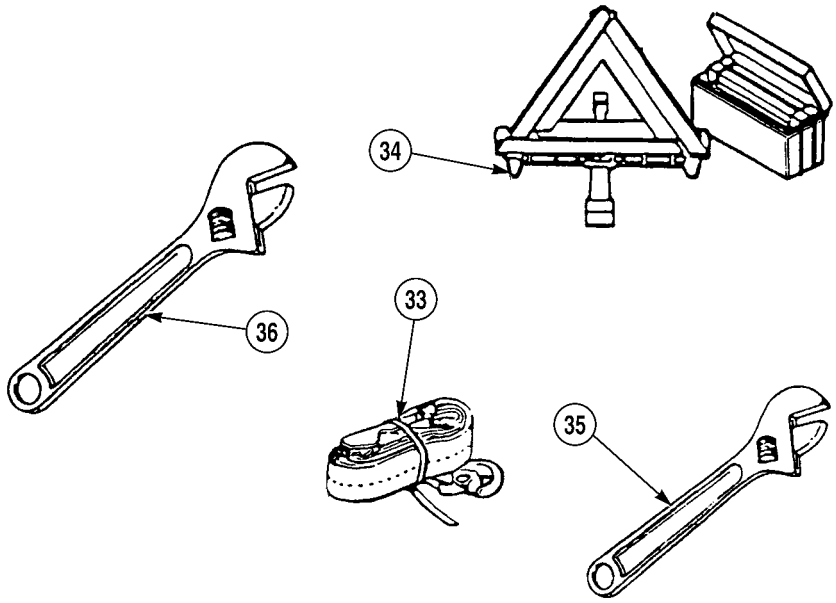
(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
17	5120-01-146-8096	Jack, Hydraulic, (12 ton) (26952) JH-12G	074, 075	EA	1
18	6545-00-922-1200	Kit, First Aid (64616) SC C 6545-IL VOL. 2	074, 075	EA	1
19	5440-01-342-0700	Ladder (45152) 2019940	074, 075	EA	1
20	5340-00-158-3807	Padlock W/ Chain (96906) MS35647-9	074, 075	EA	3
21	5340-00-158-3805	Padlock W/O Chain (96906) MS35647-10	074, 075	EA	1
22	2540-00-670-2459	Pamphlet Bag (19207) 11676920	074, 075	EA	1



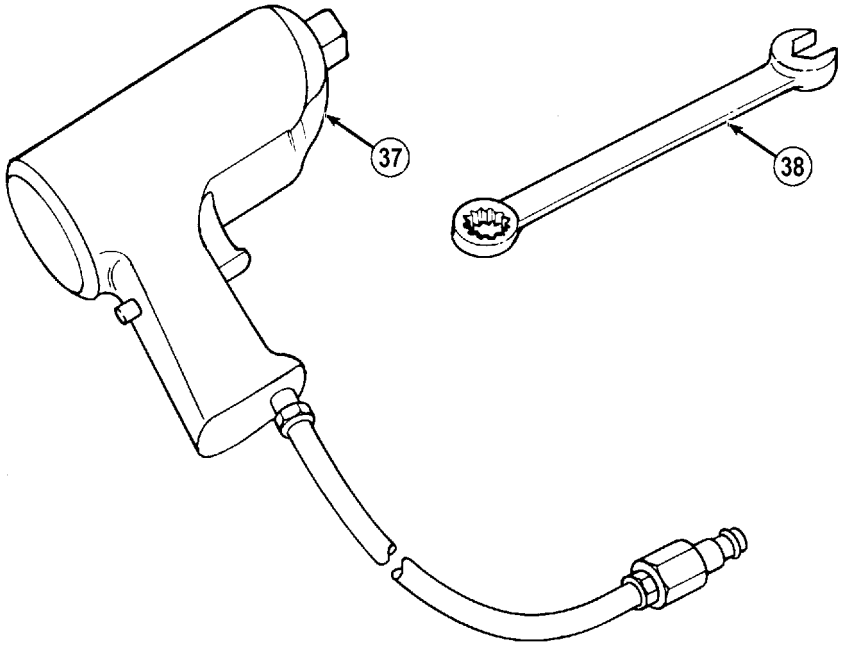
(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
23	5340-01-350-0872	Plate, Mounting (45152) 1731070	074, 075	EA	1
24	5120-01-336-5636	Pliers, 10 in. (71612) 420	074, 075	EA	1
25	5120-00-234-8912	Screwdriver, Hand (80204) SSDP63 B107.15 TY2DEASZ3	074, 075	EA	1
26	5120-00-227-7356	Screwdriver, Standard (64067) 5120-00-227-7356	074, 075	EA	1
27	4030-00-169-9298	Shackle, Hard Lift (39428) 358T1 1-2	074, 075	EA	2
28	4030-01-408-2774	Shackle, Towing (90202) MO666	074, 075	EA	6



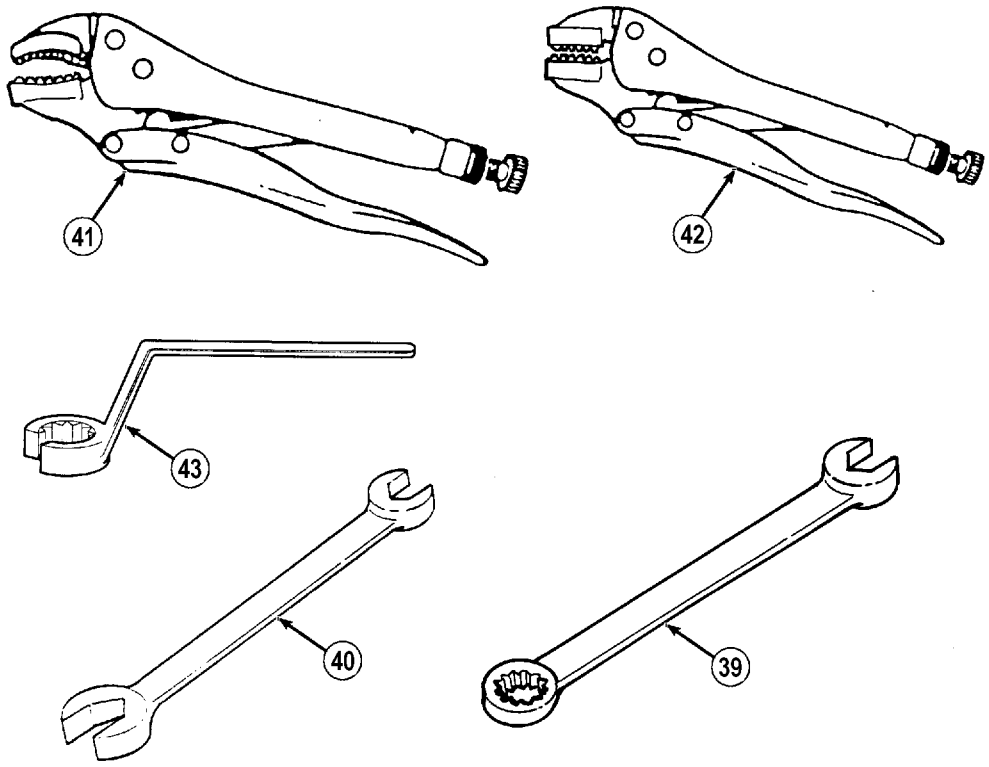
(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
29	3940-01-209-6008	Sling, Ammunition (45152) 1385750	074	EA	1
30	3940-01-241-7400	Sling, Six Legged (57282) 8711-005	074	EA	1
31	5130-01-366-0376	Socket, 33mm (93389) 07533M	074, 075	EA	1
32	5130-00-541-7839	Socket, 1-1/2 in. (1DJ82) DP482TW	074, 075	EA	1
32.1	5120-00-199-7771	Socket, 2-1/4 in., 3/4 in. Drive (82799) H1272	074, 075	EA	1
32.2	5120-00-249-1076	Socket Wrench, 3/4 in. Drive (77053) 9649	074, 075	EA	1



(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
33	5340-01-341-2984	Strap, Ratchet, 10 ft. (75407) HD2310	074, 075	EA	1
34	9905-00-148-9546	Warning Kit, Highway (19207) 11669000	074, 075	EA	1
35	5120-00-240-5328	Wrench, Adjustable 8 in. (19207) 11655778-3	074, 075	EA	1
36	5120-00-264-3796	Wrench, Adjustable 12 in. (19207) 11655778-5	074, 075	EA	1



(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
37	5130-01-428-3751	Wrench, Impact, Pnuematic (W/Hose) (45152) 1789100U	074, 075	EA	1
		Includes:			
	5130-01-341-4504	Wrench, Impact, Pnuematic (90299) CP-9560-RSR	074, 075	EA	1
	4730-00-289-0232	Adapter (93061) 216P-6-4	074, 075	EA	1
	4730-01-341-2410	Coupling, Male (01276) FD40-1013-06-06	074, 075	EA	1
38	5120-01-132-4038	Wrench, Combination - 7/16 in. (8Z799) BXOE-14	074, 075	EA	1



(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable On Code	(4) U/I	(5) Qty Rqr
39	5120-01-300-1367	Wrench, Combination - 1/2 in. (55719) GOEX16	074, 075	EA	1
40	5120-01-373-8833	Wrench, Open End, 3/4 by 7/8 in. (8Z799) BW-731A	074, 075	EA	1
41	5120-00-494-1911	Wrench, Plier, Curved (81348) GGG-W-00649	074, 075	EA	1
42	5120-00-277-4244	Wrench, Plier, Standard (45152) 1362640	074, 075	EA	1
43	5120-01-387-0055	Wrench, Tube 3/4 in. (55719) XB2428	074, 075	EA	1

APPENDIX C

ADDITIONAL AUTHORIZATION LIST (AAL)

Section I. INTRODUCTION

C-1. SCOPE.

This appendix lists additional items you are authorized for the support of the truck.

C-2. GENERAL.

This list identifies items that do not have to accompany the truck and that do not have to be turned in with it. These items are all authorized to you by Common Tables of Allowance (CTA), Modification Table of Organization and Equipment (MTOE), Tables of Distribution and Allowances (TDA), or Joint Table of Allowance (JTA).

C-3. EXPLANATION OF LISTING.

National Stock Number (NSN), descriptions and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name. If the item you require differs between serial numbers of the same model, effective serial numbers are shown in the last line of the description.

Section II. ADDITIONAL AUTHORIZATION ITEMS LIST

(1) National Stock Number	(2) Description CAGE & Part Number	Usable On Code	(3) U/M	(4) Qty Auth
4720-01-254-0189	Air Hose, Inter-Veh (96906), MS39325-9-140-B	074, 075	EA	2
6665-00-859-2215	Alarm Unit, Chemical Agent Automatic Alarm (81361), D5-15-4826	074, 075	EA	1
2590-00-148-7961	Cable Assy, Nato w/Adapters (19207), 11682379-1	074, 075	EA	1
6150-01-353-3201	Cable, Trailer, Light (06721), 7742-168	074, 075	EA	1
3940-01-270-3389	Chain, Sling (16 ft.) (45152), 1482010	074, 075	EA	2
2540-01-152-7813	Chains, Tire (80535), 16:00x20/2624	074, 075	SE	1
4230-01-133-4124	Decontaminating Apparatus (81361), E5-51-527	074, 075	EA	1
6665-00-859-2201	Detector Unit, Chemical Agent Automatic Alarm (81361), D5-15-4400	074, 075	EA	1
8415-00-634-4658	Gloves, Leather (90142), 37G2940	074, 075	PR	2
6220-01-456-2746	Kit, CBT Aux. Light Bar (TBD), 100199	074, 075	EA	1
2540-01-460-5784	Kit, Extended Drawbar/Light Bar (45152), 3188600	074, 075	EA	1
6130-01-449-7590	Kit, Installation, Battery Solar Panel Charging System, 12V	074, 075	EA	1
6130-01-449-7594	Kit, Installation, Battery Solar Panel Charging System, 24V	074, 075	EA	1

SECTION II. ADDITIONAL AUTHORIZATION ITEMS LIST (CONT'D)

(1) National Stock Number	(2) Description CAGE & Part Number	Usable On Code	(3) U/M	(4) Qty Auth
2540-01-408-1538	Kit, Tow Bar Adapter (45152), 2075150-U	074, 075	EA	1
6220-00-947-7535	Light, Warning (Beacon) (96906), MS51317-4	074, 075	EA	1
1005-00-704-6650	Mount, Machine Gun (19204), 7046650	074, 075	EA	1
2540-00-267-2912	Towbar (10 ton) (19207), 12322663	074, 075	EA	1

APPENDIX D

EXPENDABLE AND DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. SCOPE.

This appendix lists all expendable and durable items that you will need to operate and maintain the PLS. This listing is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-790 Expendable/Durable Items (except Medical, Class V, Repair Parts and Heraldic Items) or CTA 8-100, Army Medical Department Expendable/Durable Items.

Section II. EXPENDABLE AND DURABLE ITEMS LIST

D-2. EXPLANATION OF COLUMNS.

a. Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the item; Dry Cleaning Solvent, (Item 14, Appendix D).

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the item.

C - Operator/Crew

c. Column (3) - National Stock Number. This is the National Stock Number assigned to the item which you can use to requisition it.

d. Column (4) - Item Name, Description, Commercial and Government Entity Code (CAGEC) and Part Number. This provides the other information you need to identify the item.

e. Column (5) - Unit of Measure. This code shows the physical measurement of an item, such as gallon, dozen, gross, etc.

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	C		Antifreeze, Arctic Type (MIL-A-11755)	
		6850-00-243-1992	1 gal. can	gal.
		6850-00-174-1806	55 gal. drum	gal.
2	C	6850-00-181-7940	Antifreeze, Permanent, Glycol, Inhibited (MIL-A-46153)	gal.
3	C	7939-00-634-3935	Chips, Soap, (P-S-579)	
4	C		Grease, Automotive and Artillery (GAA) (MIL-G-10924)	
		9150-01-197-7789	2.5 oz. tube	oz.
		9150-01-197-7693	14 oz. cartridge	oz.
		9150-01-197-7690	1.75 lb. can	lb.
		9150-01-197-7692	35 lb. can	lb.
		9150-01-197-7691	120 lb. drum	lb.
5	C		Oil, Fuel, Diesel, DF-1, Winter (VV-F-800)	
		9140-00-286-5286	Bulk	gal.
		9140-00-286-5287	5 gal. drum	gal.
		9140-00-286-5288	55 gal. drum, 16 gage	gal.
		9140-00-286-5289	55 gal. drum, 18 gage	gal.
6	C		Oil, Fuel, Diesel, DF-2, Regular (VV-F-800)	
		9140-00-286-5294	Bulk	gal.
		9140-00-286-5295	5 gal. drum	gal.
		9140-00-286-5296	55 gal. drum, 16 gage	gal.
7	C		Oil, Lubricating, Gear, GO 75 (MIL-L-2105C)	
		9150-01-035-5390	1 qt. can	qt.
		9150-01-035-5391	5 gal. drum	gal.
		9150-01-035-5394	55 gal. drum	gal.
8	C		Oil, Lubricating, Gear, GO 80/90 (MIL-L-2105C)	
		9150-01-035-5393	5 gal. drum	gal.

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
9	C		Oil, Lubricating, OEA, ICE, Subzero (MIL-L-46167)	
		9150-00-402-4478	1 qt. can	qt.
		9150-00-402-2372	5 gal. drum	gal.
		9150-00-402-7197	55 gal. drum, 16 gage	gal.
10	C		Oil, Lubricating, OE/HDO 10 (MIL-L-2104)	
		9150-00-189-6727	1 qt. can	qt.
		9150-00-186-6668	5 gal. drum	gal.
			55 gal. drum, 16 gage	gal.
		9150-00-191-2772	55 gal. drum, 18 gage	gal.
11	C		Oil, Lubricating, OE/HDO 30 (SAE 30) (MIL-L-2140)	
		9150-00-186-6681	1 qt. can	qt.
		9150-00-188-9858	5 gal. drum	gal.
		9150-00-265-9436	55 gal. drum, 16 gage	gal.
		9150-00-189-6729	55 gal. drum, 18 gage	gal.
12	C		Oil, Lubricating, OE/HDO 40 (MIL-L-2104)	
		9150-00-188-6730	1 qt. can	qt.
		9150-00-188-9865	5 gal. drum	gal.
		9150-00-188-9862	55 gal. drum, 16 gage	gal.
		9150-00-405-2987	bulk	gal.
13	C		Rags, Wiping (A-A-531)	
		7920-00-205-1711	50 lb. bale	
14	C		Solvent, Dry Cleaning, SD (P-D-680)	
		6850-00-664-5685	1 qt. can	qt.
		6850-00-281-1985	1 gal. can	gal.
			(Environmentally Compliant Solvent) (0K209) Breakthrough	
		6850-01-378-0679	5 gallon can	gal.
15	C		Solvent, Biodegradable (MIL-C-87936)	
		6850-01-181-0273	1 qt. can	qt.
		6850-01-184-7453	5 gal. drum	gal.
		6850-01-184-3182	55 gal. drum	gal.
16	C		Washer, Windshield (O-C-1901)	
		6850-00-926-2275	1 gal. bottle	gal.

APPENDIX E

STOWAGE AND SIGN GUIDE (FOR COEI, BII, AND APPLICABLE AAL ITEMS)

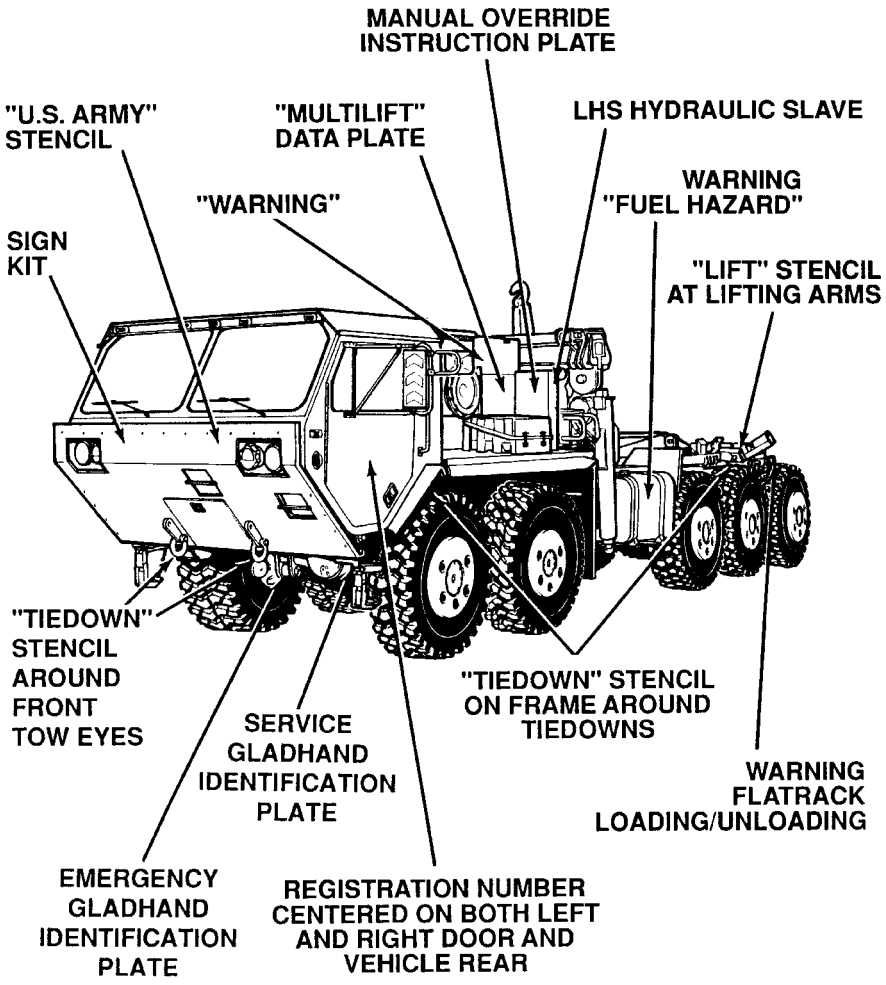
Section I. INTRODUCTION

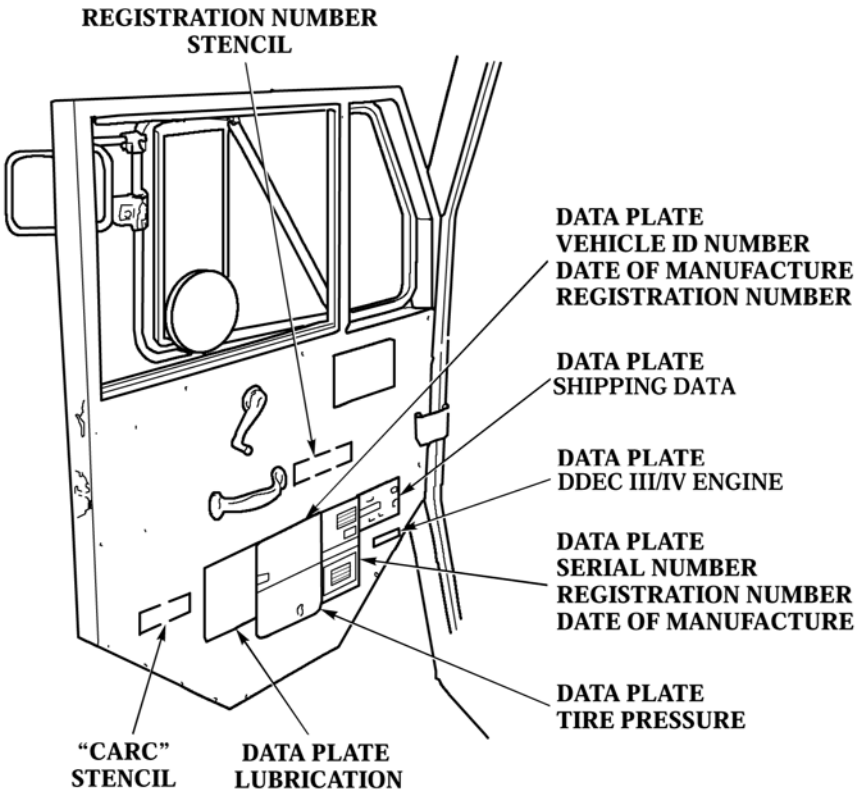
E-1. SCOPE.

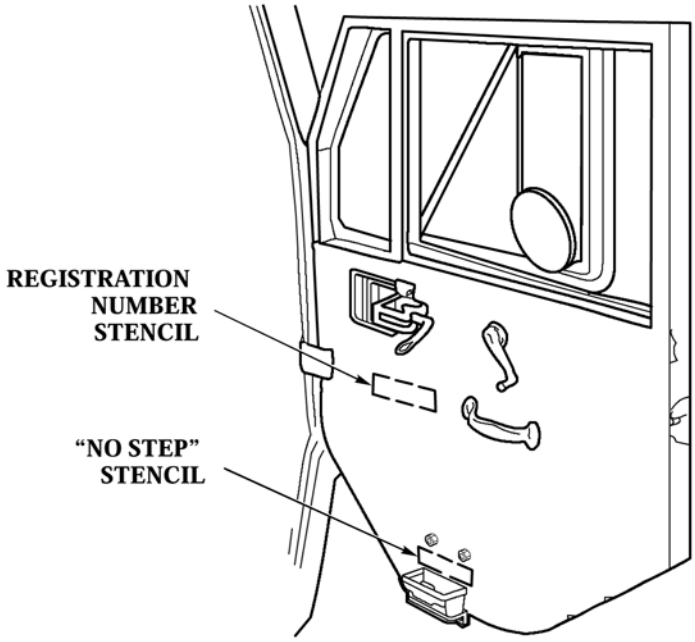
This appendix shows locations for data plates, decals and stencils that are required to be in place on the truck.

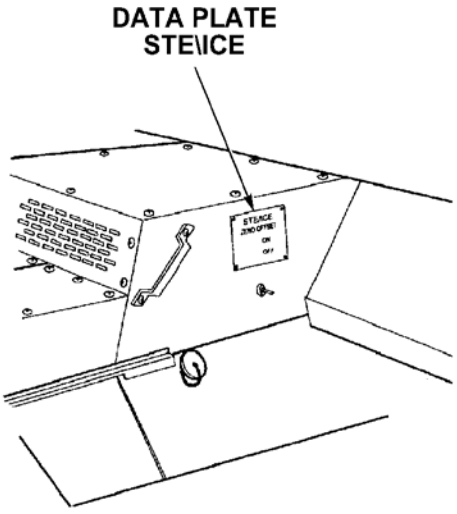
E-2. GENERAL.

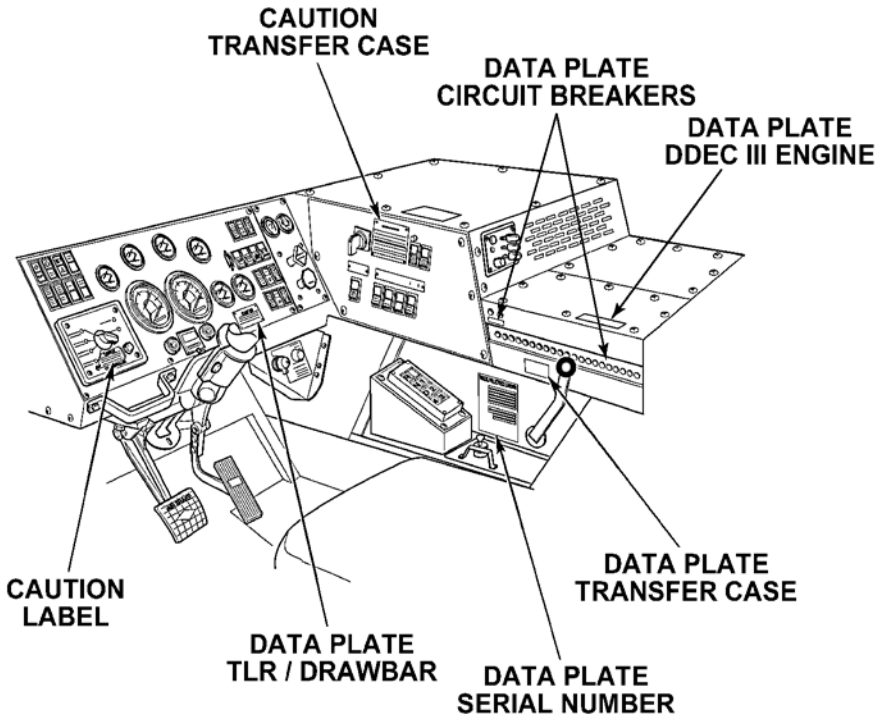
The figures on the next pages show the location of metal signs, decals and stencils used on the truck. Most of these signs and stencils contain cautions or information needed to operate the truck safely.

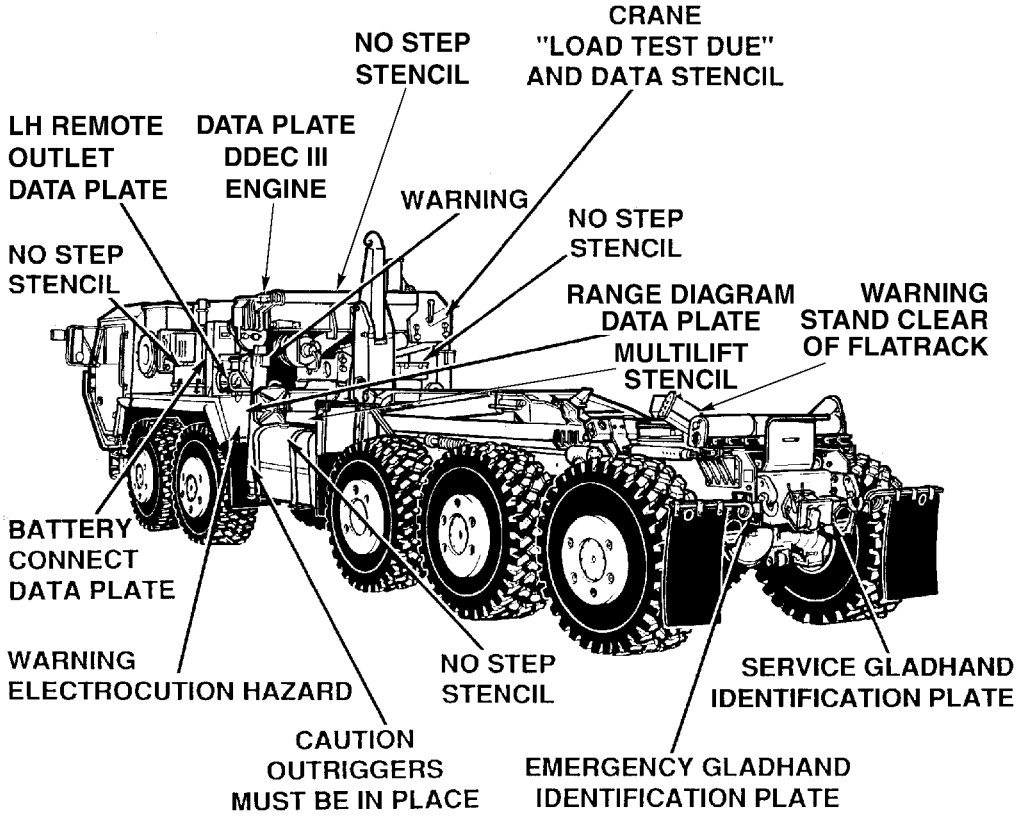

MANUAL OVERRIDE INSTRUCTION PLATE
"U.S. ARMY" STENCIL
"MULTILIFT" DATA PLATE
LHS HYDRAULIC SLAVE
WARNING "FUEL HAZARD"
"WARNING"
SIGN KIT
"LIFT" STENCIL AT LIFTING ARMS
"TIEDOWN" STENCIL AROUND FRONT TOW EYES
"TIEDOWN" STENCIL ON FRAME AROUND TIEDOWNS
SERVICE GLADHAND IDENTIFICATION PLATE
WARNING FLATRACK LOADING/UNLOADING
EMERGENCY GLADHAND IDENTIFICATION PLATE
REGISTRATION NUMBER CENTERED ON BOTH LEFT AND RIGHT DOOR AND VEHICLE REAR

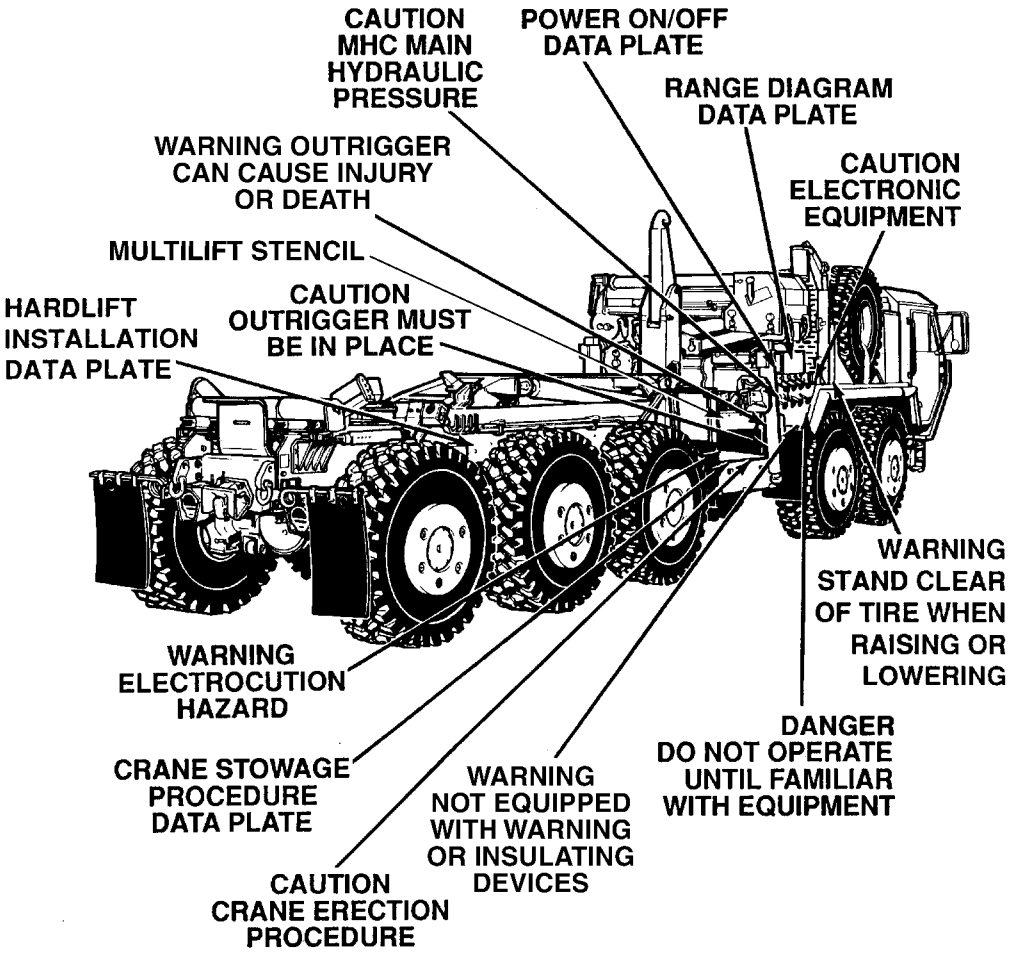

REGISTRATION NUMBER STENCIL
DATA PLATE
VEHICLE ID NUMBER
DATE OF MANUFACTURE
REGISTRATION NUMBER
DATA PLATE
SHIPPING DATA
DATA PLATE
DDEC III/IV ENGINE
DATA PLATE
SERIAL NUMBER
REGISTRATION NUMBER
DATE OF MANUFACTURE
DATA PLATE
TIRE PRESSURE
"CARC" STENCIL
DATA PLATE
LUBRICATION

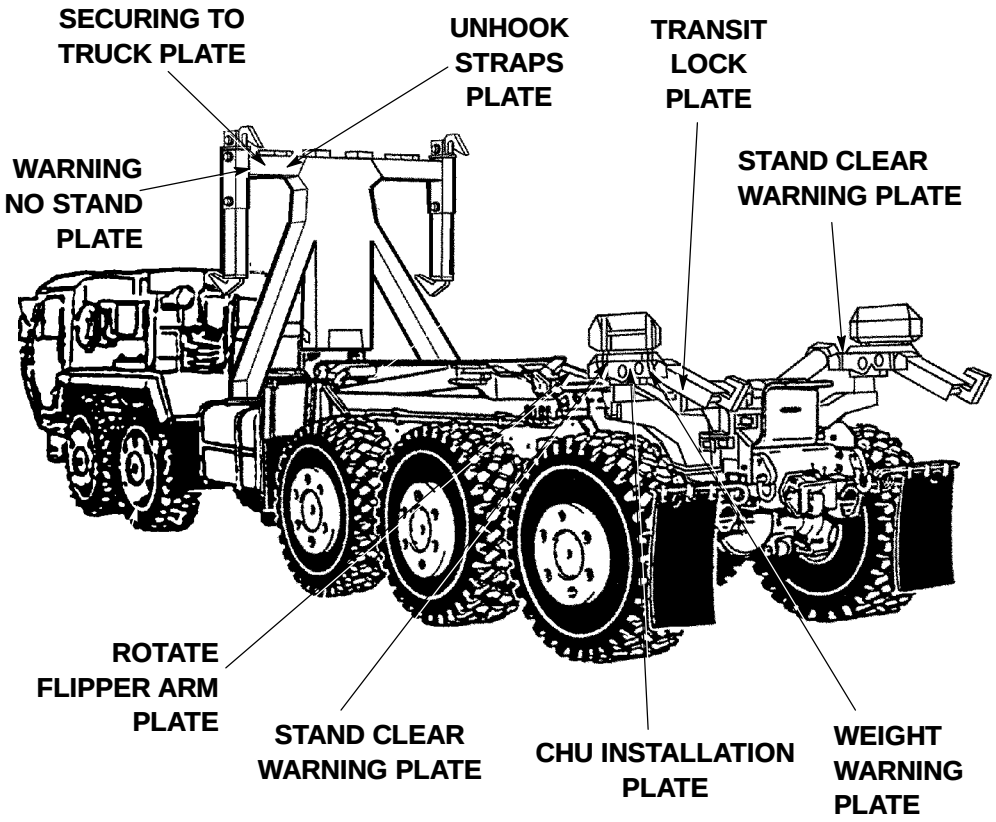

REGISTRATION NUMBER STENCIL
"NO STEP" STENCIL

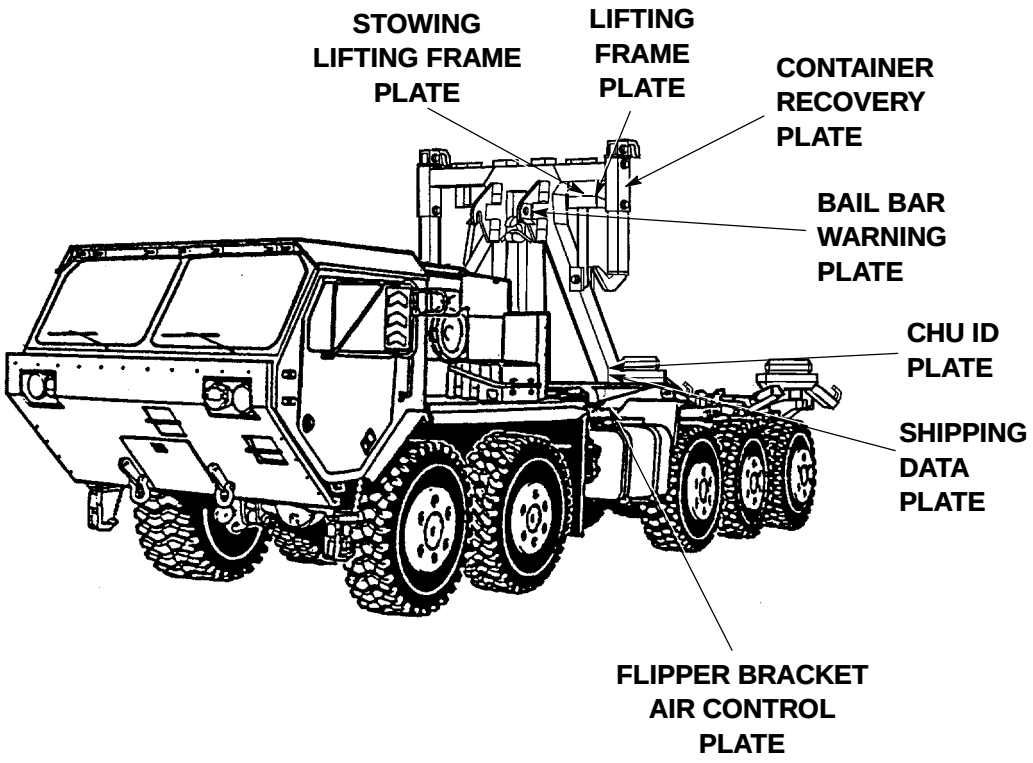

DATA PLATE
STE\ICE

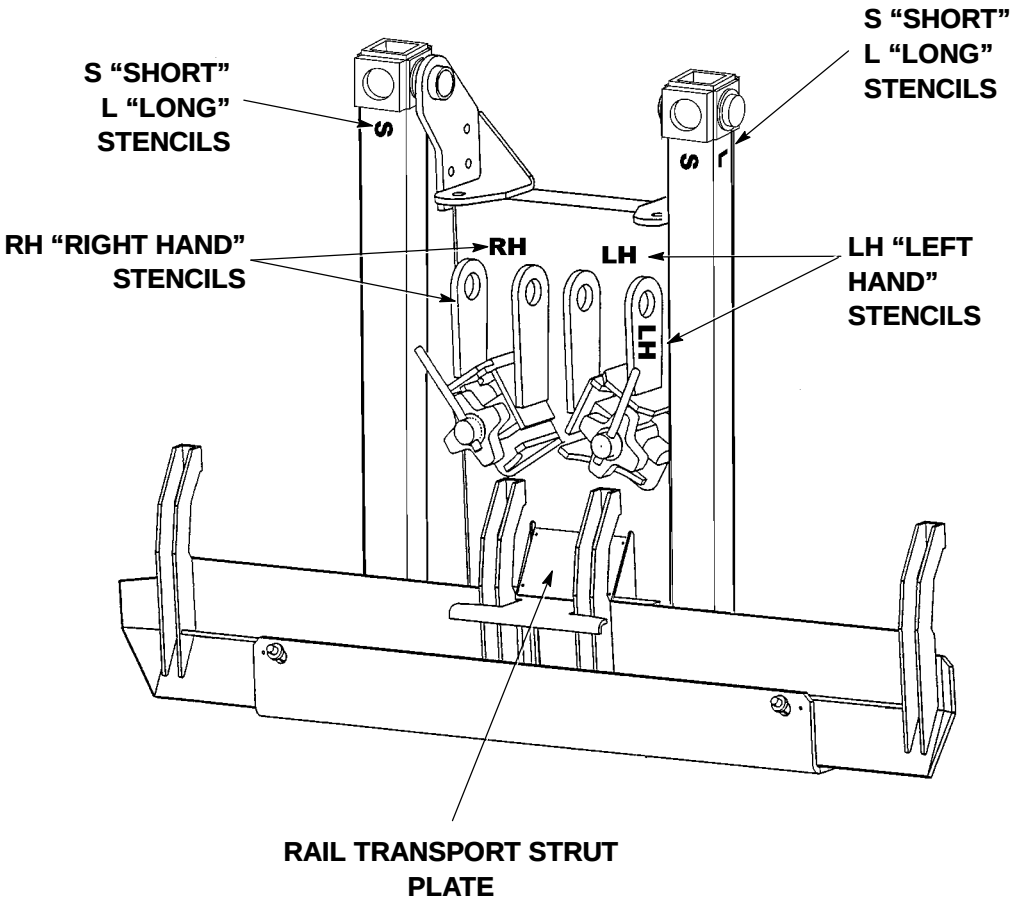

CAUTION
TRANSFER CASE
DATA PLATE
CIRCUIT BREAKERS
DATA PLATE
DDEC III ENGINE
CAUTION
LABEL
DATA PLATE
TLR / DRAWBAR
DATA PLATE
SERIAL NUMBER
DATA PLATE
TRANSFER CASE

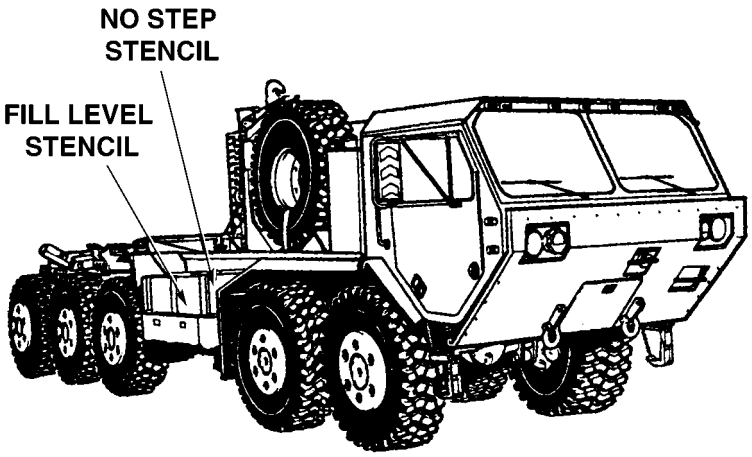

NO STEP STENCIL
CRANE "LOAD TEST DUE" AND DATA STENCIL
LH REMOTE OUTLET DATA PLATE
DATA PLATE DDEC III ENGINE
WARNING
NO STEP STENCIL
NO STEP STENCIL
RANGE DIAGRAM DATA PLATE
WARNING STAND CLEAR OF FLATRACK
MULTILIFT STENCIL
BATTERY CONNECT DATA PLATE
WARNING ELECTROCUTION HAZARD
NO STEP STENCIL
SERVICE GLADHAND IDENTIFICATION PLATE
CAUTION OUTRIGGERS MUST BE IN PLACE
EMERGENCY GLADHAND IDENTIFICATION PLATE


CAUTION
MHC MAIN
HYDRAULIC
PRESSURE
POWER ON/OFF
DATA PLATE
RANGE DIAGRAM
DATA PLATE
WARNING OUTRIGGER
CAN CAUSE INJURY
OR DEATH
CAUTION
ELECTRONIC
EQUIPMENT
MULTILIFT STENCIL
CAUTION
OUTRIGGER MUST
BE IN PLACE
HARDLIFT
INSTALLATION
DATA PLATE
WARNING
STAND CLEAR
OF TIRE WHEN
RAISING OR
LOWERING
WARNING
ELECTROCUTION
HAZARD
DANGER
DO NOT OPERATE
UNTIL FAMILIAR
WITH EQUIPMENT
CRANE STOWAGE
PROCEDURE
DATA PLATE
WARNING
NOT EQUIPPED
WITH WARNING
OR INSULATING
DEVICES
CAUTION
CRANE ERECTION
PROCEDURE


SECURING TO TRUCK PLATE
UNHOOK STRAPS PLATE
TRANSIT LOCK PLATE
WARNING NO STAND PLATE
STAND CLEAR WARNING PLATE
ROTATE FLIPPER ARM PLATE
STAND CLEAR WARNING PLATE
CHU INSTALLATION PLATE
WEIGHT WARNING PLATE


STOWING LIFTING FRAME PLATE
LIFTING FRAME PLATE
CONTAINER RECOVERY PLATE
BAIL BAR WARNING PLATE
CHU ID PLATE
SHIPPING DATA PLATE
FLIPPER BRACKET AIR CONTROL PLATE


S "SHORT"
L "LONG"
STENCILS
S "SHORT"
L "LONG"
STENCILS
RH "RIGHT HAND"
STENCILS
RH
LH
LH "LEFT
HAND"
STENCILS
S
L
LH
RAIL TRANSPORT STRUT
PLATE


NO STEP
STENCIL
FILL LEVEL
STENCIL

APPENDIX F

ON-TRUCK EQUIPMENT LOADING PLAN

Section I. INTRODUCTION

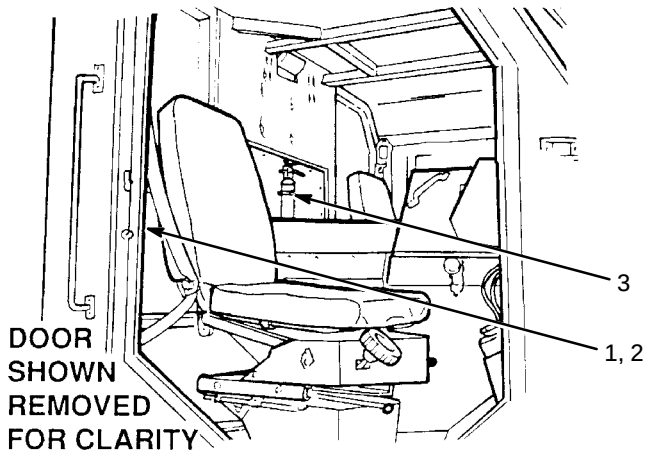
F-1. SCOPE.

This appendix shows stowage locations for equipment necessary to support the truck.

F-2. GENERAL.

Stowage locations are given for equipment that must accompany the truck at all times. The BII and COEI items are covered in this appendix.

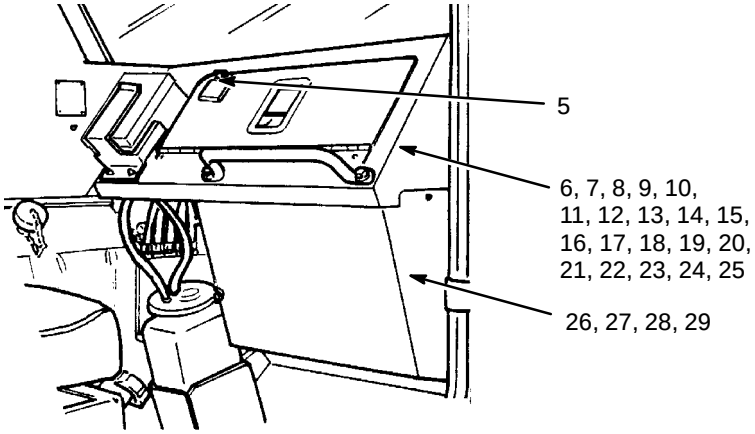
Section II. ON-TRUCK EQUIPMENT LOADING PLAN



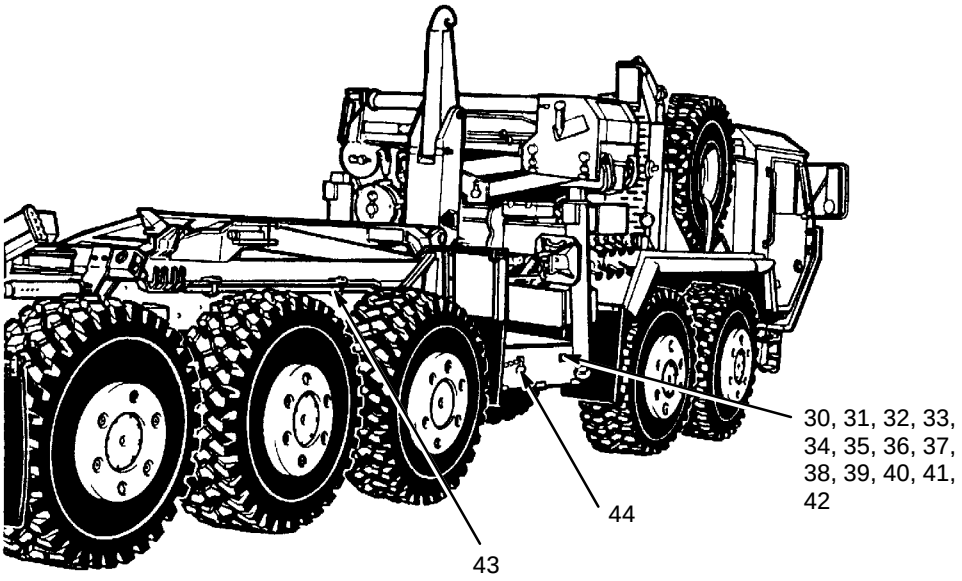
LOAD PLAN (INSIDE CAB)

NO.	ITEM
1	BAG, STORAGE, REMOTE CONTROL CABLE (M1074 ONLY)
2	CABLE, REMOTE CONTROL (M1074 ONLY)
3	EXTINGUISHER, FIRE

Section II. ON-TRUCK EQUIPMENT LOADING PLAN (CONT).



LOAD PLAN (INSIDE CAB) (CONT).	
NO.	**ITEM**
4	KIT, FIRST AID
5	PADLOCK W/O CHAIN
6	BAG, TOOL
7	BAG, TOOL
8	BOOK, LOG
9	EXTENSION, WRENCH
10	GAGE, TIRE INFLATOR/DEFLATOR
11	HAMMER
12	HANDLE, EXTENSION, JACK
13	HANDLE, SLIDING
14	PAMPHLET BAG
15	PLIERS, 10 IN.
16	SCREWDRIVER, HAND
17	SCREWDRIVER, STANDARD
18	SOCKET, 33MM
19	SOCKET, 1–1/2 IN.
20	WRENCH, COMBINATION 7/16 IN.
21	WRENCH, COMBINATION 1/2 IN.
22	WRENCH, OPEN END 3/4 IN. AND 7/8 IN.
23	WRENCH, PLIER CURVED
24	WRENCH, PLIER STANDARD
25	WRENCH, TUBE 3/4 IN.
26	HARNESS ASSEMBLY, WORKLAMP
27	HOSE ASSEMBLY
28	STRAP, RATCHET 10 FT.
29	WRENCH, IMPACT, PNEUMATIC (W/HOSE)



LOAD PLAN ON TRUCK.	
NO.	**ITEM**
30	BLOCK, SNATCH (TRUCKS WITH SRW ONLY)
31	CABLE, SLAVE, HYDRAULIC
32	CHAIN, UTILITY
33	CHOCK, WHEEL
34	HANDLE
35	HANDLE, PUMP
36	JACK, HYDRAULIC, (12 TON)
37	PLATE, MOUNTING
38	SHACKLE, HARD LIFT
39	SHACKLE, TOWING
40	SLING, AMMUNITION
41	SLING, SIX LEGGED
42	WARNING KIT, HIGHWAY
43	LADDER
44	PADLOCK W/CHAIN

APPENDIX G

LUBRICATION INSTRUCTIONS

Section I. INTRODUCTION

G-1. SCOPE.

This appendix gives lubrication requirements for the M1074 and M1075 series PLS which are the responsibility of the operator/crew.

G-2. GENERAL LUBRICATION REQUIREMENTS.

a. Maintaining Lubricant Levels. Lubricant levels must be checked as specified in the PMCS (Chapter 2, Section II) and Lubrication Table. Steps must be taken to replenish and maintain lubricant levels.

WARNING

- Drycleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles, face shield, and gloves; use only in a well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breathe vapors. Keep away from heat or flame. Never smoke when using solvent. The flashpoint for Type II Drycleaning Solvent is 140 degrees F (60 degrees C) and Type III Drycleaning Solvent is 200 degrees F (93 degrees C). Failure to do so may result in injury or death to personnel.
- If personnel become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts skin or clothes, flush with cold water. If solvent contacts eyes, immediately flush eyes with water and get immediate medical attention.

b. Cleaning Fittings Before Lubrication. Clean parts with Dry Cleaning Solvent P-D-680 or equivalent. Dry before lubricating. Dotted arrow points indicate lubrication on both sides of the equipment.

c. Lubrication After Fording. If fording operation occurs, lubricate all fittings below fording depth and check submerged gear boxes for presence of water.

d. Lubrication After High-Pressure Washing. After a thorough washing, lubricate all grease fittings and oil can points outside and underneath vehicle.

e. Localized Views. A reference to the appropriate localized view is given after most lubrication entries. Localized views begin on page G-13.

G-3. LUBRICATION INTERVALS.

a. Service Interval Under Normal Conditions. Service intervals listed are for normal operation in moderate temperatures, humidity, and atmospheric conditions. Hard time intervals may be shortened if your lubricants are contaminated or if you are operating the equipment under adverse conditions, including longer-than-usual operating hours. Hard time intervals may be extended during periods of low activity, though adequate preservation precautions must be taken. Perform semi-annual service intervals every six months, or 3,000 miles (4,827 km), whichever comes first.

b. Service Interval Under Unusual Conditions. Increase frequency of lubricating service when operating under abnormal conditions such as high or low temperatures, prolonged high speed driving, or extenderd cross-country operations. Such operation can diminsh lubricant's protective qualities. More frequent lubricating service intervals are necessary to maintain vehicle readiness when operating under abnormal conditions.

c. Hard Time Intervals. Intervals shown in this appendix are based on mileage and calendar times. An example of mileage and calendar intervals is 3/S, in which 3 stands for 3,000 mi. (4,827 km), and S stands for semiannually (every six months). The lubrication for the vehicle is to be performed at whichever interval occurs first. For equipment under manufacturer's warranty, hard time oil service intervals shall be followed.

G-4. LUBRICATION FOR OPERATION UNDER EXTREME TEMPERATURES.

a. Changes in Lubricant Grades. Lubricant grades change with weather conditions. Refer to Lubrication Table for lubricant grade changes.

b. Arctic Conditions. Refer to FM 9-207, Operation and Maintenance of Ordinance Material in cold weather (0 degrees F to -65 degrees F) (-18 degrees C to -54 degrees C), or the Lubrication Table.

G-5. CORROSION CONTROL.

Refer to Para 1-3 for appropriate corrosion control procedures.

Section II. LUBRICATION TABLE KEY

Table G-1. Lubricants

Lubrication Oil, Internal Combustion Engine (ICE), Tactical, OE/HDO (MIL-L-2104) or Lubricating Oil, ICE, Arctic, OEA (MIL-L-46167)	Component	Approximate Capacity	Expected Temperatures	Intervals	For arctic operation, refer to FM 9-207.
	Engine	32 qt (30 L) Standard oil filter 37 qt (35 L) Remote oil filter	See Chart A.	D – DAILY M – MONTHLY AR – AS REQUIRED HRS – HOURS S – SEMIANNUALLY (6 MONTHS) 1.5 – 1500 MILES	
	Transmission	36.5 qt (34.5 L)	See Chart B.		
	Power Steering Reservoir	33.5 qt (31 L)	See Chart C.		
	Hydraulic Reservoir	234 qt (221 L)	See Chart C.		
	Oil Can Points	As required	See Chart D.		

Section II. LUBRICATION TABLE KEY (CONT).

Table G-2. Other Fluids

Fluid	Capacity	Temperature	
Drycleaning Solvent, SD-II, (P-D-680)	As Required	All Temperatures	For arctic operation, refer to FM 9-207.
Antifreeze, Ethylene Glycol (MIL-A-46153)	100 qt (95 l)*	Above -50 degrees F (-46 degrees C)	
Antifreeze, Arctic-Type (MIL-A-11755)	103 qt (97 l)*	Use when extended periods of -46 degrees F (-40 degrees C) or below are encountered.	

* Cooling System Capacity

Table G-3. Grease; Automotive and Artillery (GAA) (MIL-L-10924)

The following components are lubricated with GAA as required at all temperatures

SRW Tensioning Guides and Rollers (Fittings)	For arctic operation, refer to FM 9-207.
Self-Guided Coupler (Fittings)	
Load Handling System (Fittings)	
Crane (Fittings)	

Table G-4. Antiseize Compound (MIL-A-907)

The following components are lubricated with antiseize compound as required at all temperatures.

Crane Jack Cylinder Barrels
Crane Tension Link
LHS Hook Arm Pin

Section II. LUBRICATION TABLE KEY (CONT).

CHART A. ENGINE

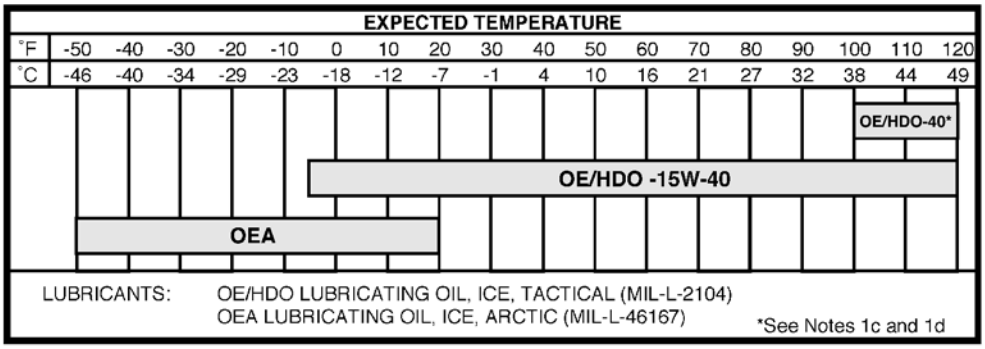
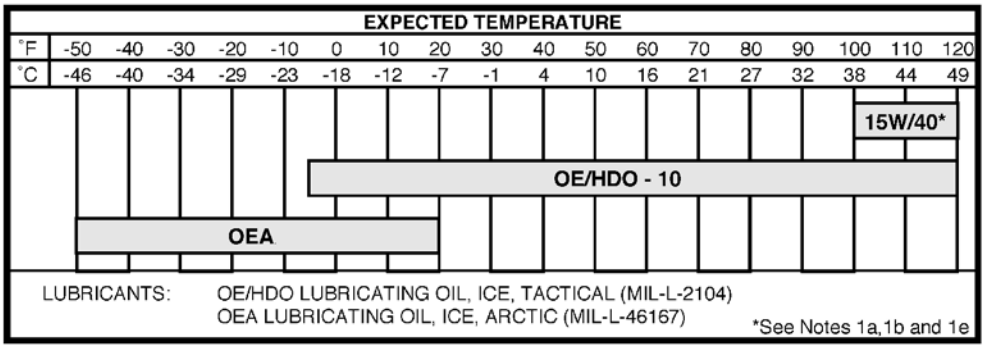


CHART B. TRANSMISSION



Section II. LUBRICATION TABLE KEY (CONT).

CHART C. HYDRAULIC RESERVOIR / STEERING RESERVOIR

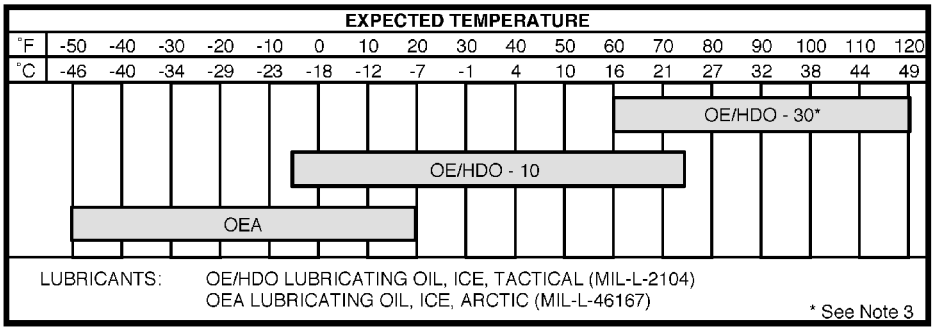
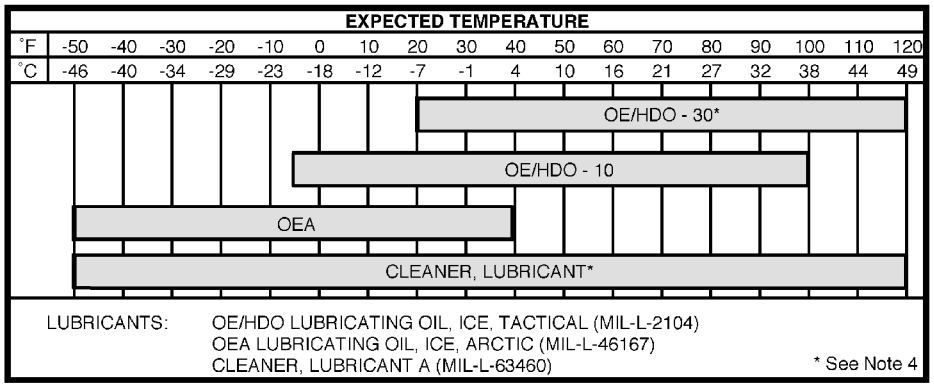
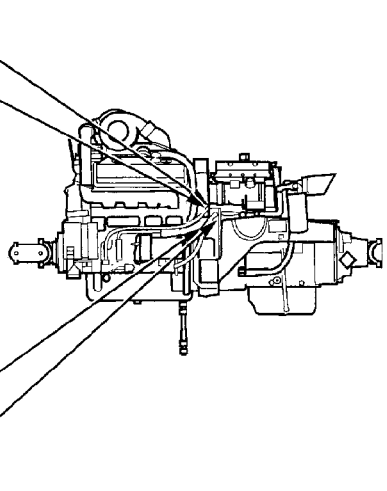


CHART D. OIL CAN POINTS

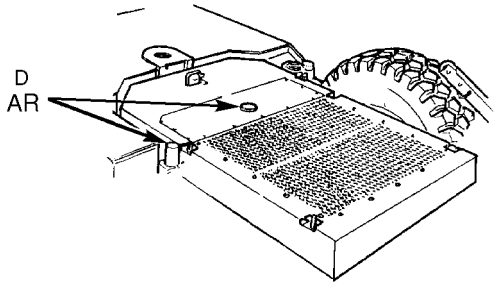


Section III. LUBRICATION POINTS

	LUBRICANT	INTERVAL
Engine Crankcase		
Check oil at dipstick. (See Note 1c and View 1.)		D
Fill at filler tube. (See Note 1d and View 1.)	OE/HDO	AR
Transmission		
Check oil at dipstick. (See Notes 1a, 1b and View 1.)		D
Fill at dipstick tube. (See Notes 1a, 1b, 1e and View 1.)	OE/HDO	AR

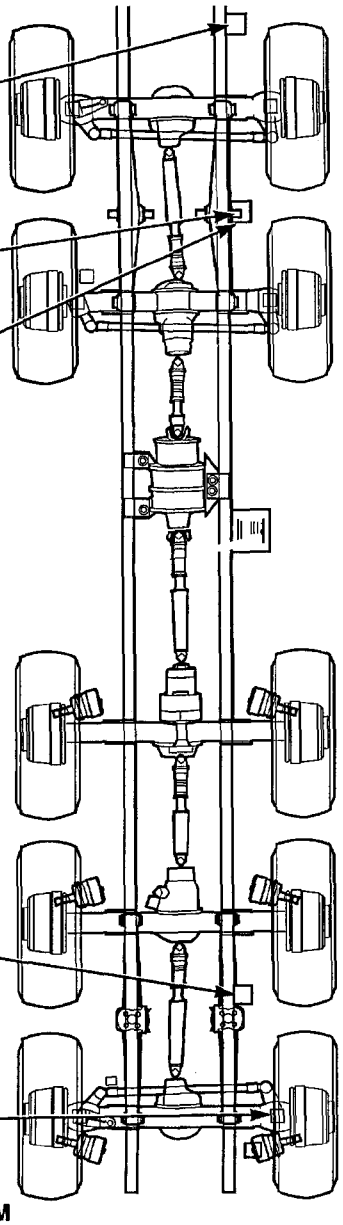


Cooling System		
Check level and fill (See View 2.)		D AR



Section III. LUBRICATION POINTS (CONT).

	LUBRICANT	INTERVAL
Self-Recovery Winch Front Guide Lubricate. (4 fittings) (See Notes 2, 2b and View 3)	GAA	AR
Self-Recovery Winch Front Tension Guide Lubricate. (3 fittings) (See Note 2a and View 4)	GAA	AR
Oil Can Points Lubricate. (See View 4)	OE/HDO	50 HRS
Self-Recovery Winch Rear Tension Guide Lubricate. (3 fittings) (See Note 2a and View 4)	GAA	AR
Self-Recovery Winch Rear Guide Lubricate. (4 fittings) (See Note 2a and View 5)	GAA	AR



SELF-RECOVERY WINCH SYSTEM

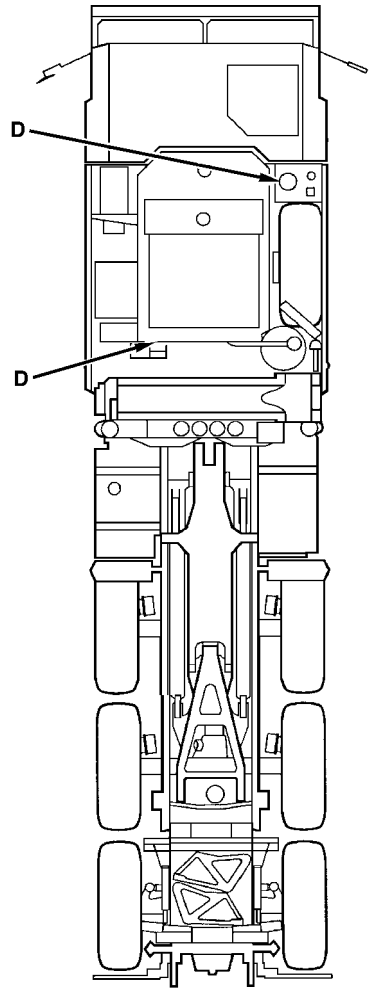
Section III. LUBRICATION POINTS (CONT).

Main Hydraulic Reservoir

Check and fill (See View 6) OE/HDO

Power Steering Reservoir

Check and fill (See View 7.) OE/HDO



Section III. LUBRICATION POINTS (CONT).

LUBRICANT • INTERVAL

LHS Hook Arm Pin
Lubricate, (See Notes 2e and 2h and View 27.) Antiseize

Lift Hook
Lubricate, (See Notes 2c and 2d.) GAA

Hook Arm Cylinder Pivot Pin (Front)
Lubricate. (2 fittings) GAA
(See Notes 2a, 2d and View 8.)

Main Cylinder Pins
Lubricate. (2 fittings) GAA
(See Notes 2a, 2d and View 9.)

Hook Arm Cylinder Pivot Pin (Rear)
Lubricate. (2 fittings) GAA
(See Notes 2a, 2d 2e and View 10.)

Hook Arm Pivot Pin (Rear)
Lubricate. (2 fittings) GAA
(See Notes 2a, 2d and View 11.)

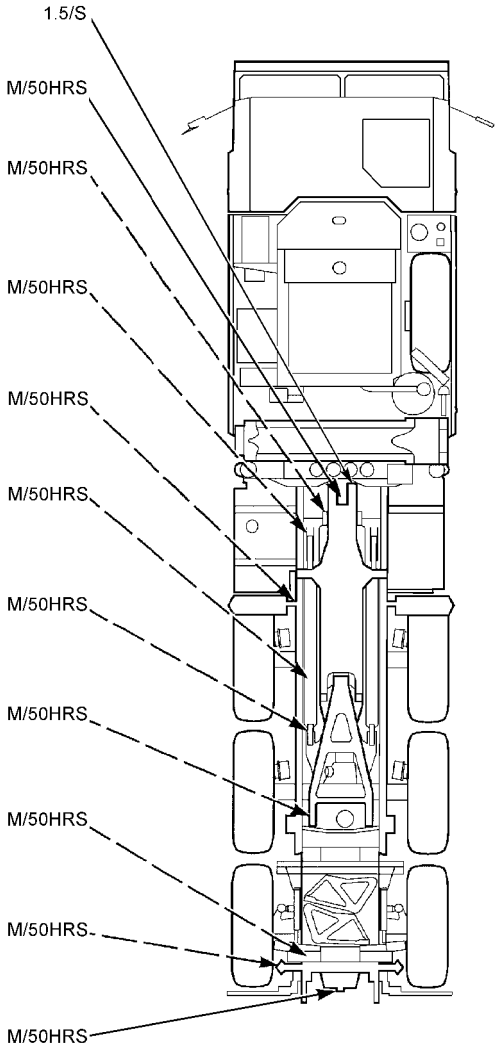
Main Cylinder Pivot Pin (Rear)
Lubricate. (2 fittings) GAA
(See Notes 2a, 2d and View 12.)

Middle Frame Pivot Pin (Rear)
Lubricate. (2 fittings) GAA
(See Notes 2a, 2d and View 13.)

Horizontal Rollers
Lubricate. (2 fittings) GAA
(See Notes 2a, 2d and View 14.)

Angled Rollers
Lubricate. (2 fittings) GAA
(See Notes 2a, 2d and View 14.)

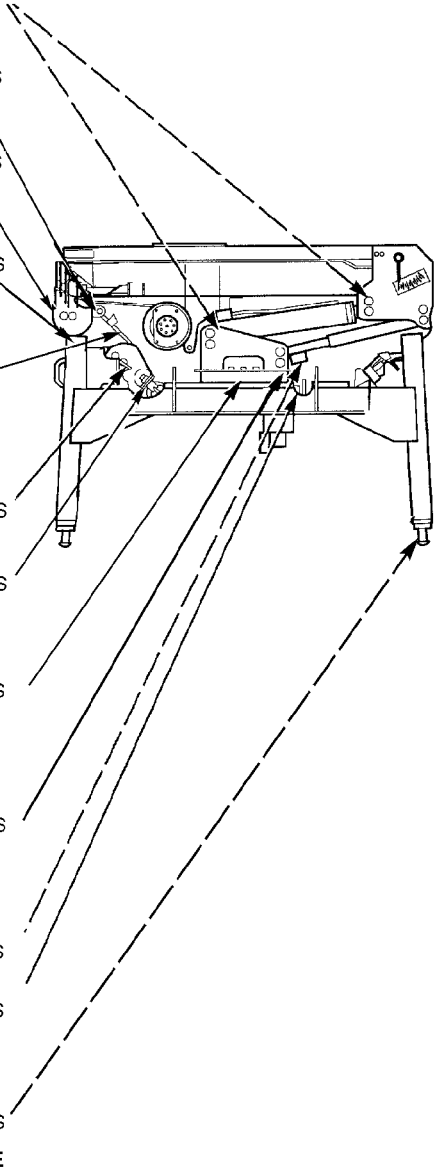
Self-Guided Coupler
Lubricate. (5 fittings) GAA
(See Notes 2a, 4 and View 25.)



LOAD HANDLING SYSTEM

Section III. LUBRICATION POINTS (CONT).

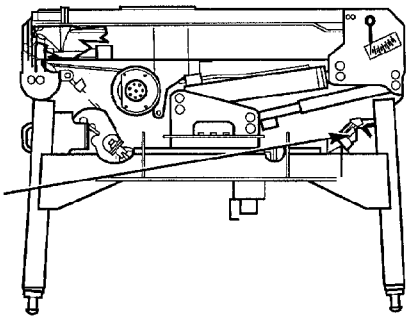
	LUBRICANT	INTERVVAL
Lift Cylinder		
Lubricate. (4 fittings) (See Note 2d and View 15.)	GAA	M-50HRS
Hoist Cable Clevis		
Lubricate with oil can (See Note 2d and View 16.)	OE/HDO	M/50HRS
Boom Nose Sheave		
Lubricate. (1 fitting) (See Note 2d and View 16.)	GAA	M/50HRS
Jack Cylinder		
Lubricate with oil can. (See Notes 2d, 2f and View 17.)	OE/HDO	M/50HRS
Hoist Cable		
Clean and lubricate. (See View 18.) (Crane extended) (Requires assistant.)	OE/HDO	AR
Hook Block Sheave		
Lubricate. (1 fitting) (See Note 2d and View 16.)		M/50HRS
Hook Assembly Bearing		
Lubricate with oil can. (See Note 2d and View 16.)	OE/HDO	M/50HRS
Turntable Bearing		
Lubricate. (1 fitting) (See Note 2d and View 19.) Raise mast until fitting comes into view. Turn and lubricate every 90 degrees.	GAA	M/50HRS
Rotation Gear and Pinion Teeth		
Coat teeth of rotation gear lightly with grease. (See Notes 2d, 2g and View 20.)	GAA	M/50HRS
Tension Link		
Lubricate. (4 fittings) (See Note 2d and View 20.)	GAA	M/50HRS
Lubricate link. (See Note 2d and View 20.)	Antiseize	M/50HRS
Jack Cylinder Barrels		
Lubricate. (See Note 2d and View 21.)	Antiseize	M/50HRS

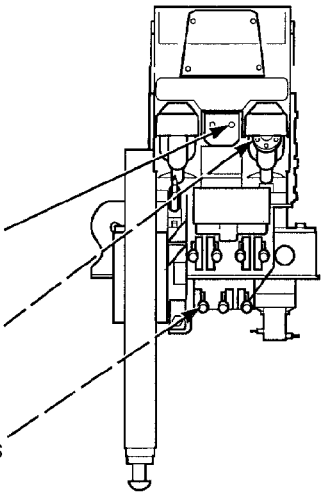


CRANE

Section III. LUBRICATION POINTS (CONT).

	LUBRICANT	INTERVAL
Crane Hand Pump		
Lubricate both sides with oil can. (See View 22.)	OE/HDO	M/50 HRS
Mast		
Lubricate. (4 fittings) (See Note 2d and View 23.)	GAA	M/50 HRS
Erection Cylinder		
Lubricate. (4 fittings) (Crane extended.) (See Note 2d and View 24)	GAA	M/50 HRS
Crane Control Valve Levers		
Lubricate with oil can. (O) (See Note 2d and View 21)	OE/HDO	M/50 HRS





CRANE

Section III. LUBRICATION POINTS (CONT).

LUBRICANT • INTERVAL

Rail Strut ISO Locks

Lubricate with oil can. OE,HDO M/50HRS
(See Note 6 and View 28.)

Bumper Supports

Lubricate with oil can. OE,HDO M/50HRS
(See Note 6 and View 29.)

Long Strut Assemblies

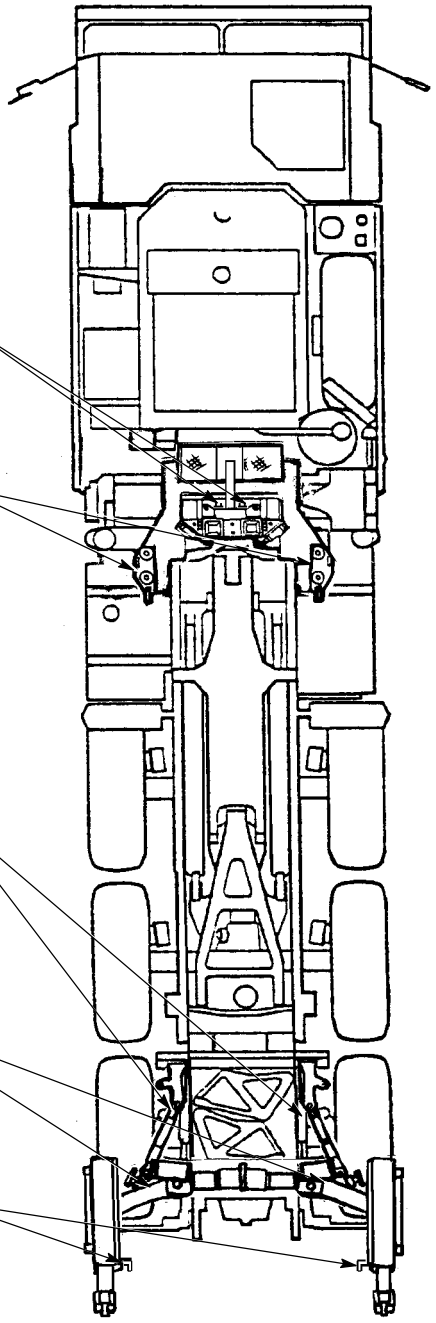
Lubricate. (2 fittings) GAAS/5,000 MILES
(See Notes 5a, 5b and View 30.)

Slider Arms

Lubricate. (4 fittings) GAAM/50HRS
(See Notes 5a, 5b and View 31.)

Container Lock Pivot Pins

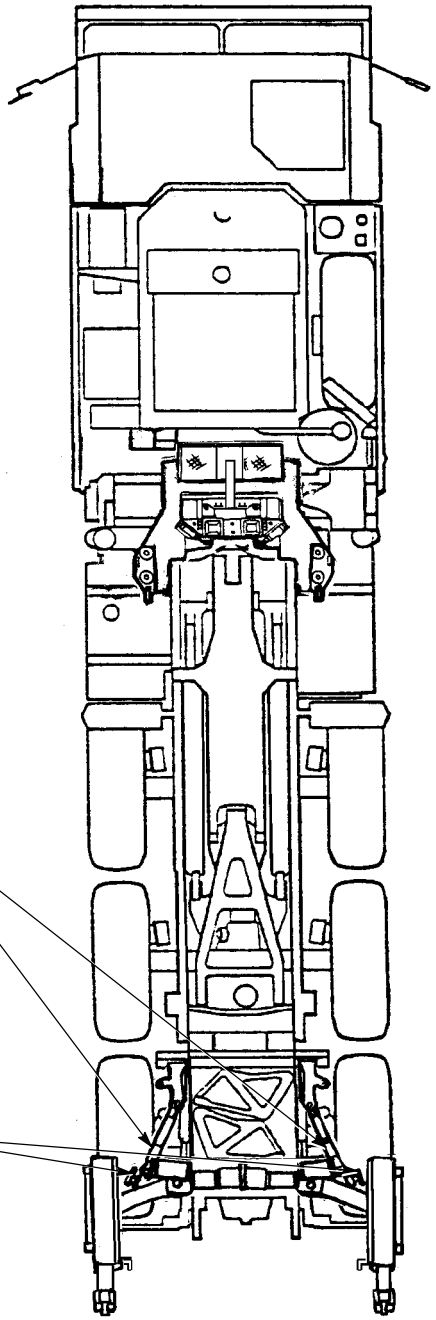
Lubricate. (2 fittings) GAAS/5,000 MILES
(See Notes 5a, 5b and View 32.)



CHU KIT

Section III. LUBRICATION POINTS (CONT).

LUBRICANT • INTERVAL



Short Strut Assemblies

Lubricate. (2 fittings) GAAS/5,000 MILES
(See Notes 5a, 5b and View 30.)

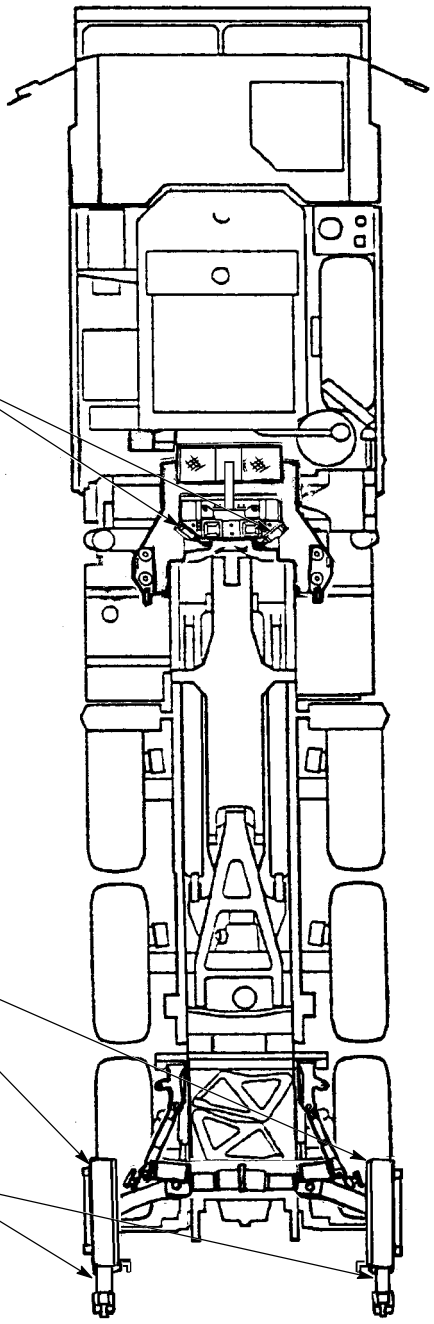
Flip Locks

Lubricate with oil can. OE,HDO M/50HRS
(See Note 6 and View 30.)

CHU KIT

Section III. LUBRICATION POINTS (CONT).

LUBRICANT • INTERVAL



Air Cylinders

Lubricate with oil can. OE,HDO M/50HRS
(See Note 6 and View 33.)

Slider Wear Pads and Wear Rails

Clean and coat with grease. GAA D
(See View 32.)

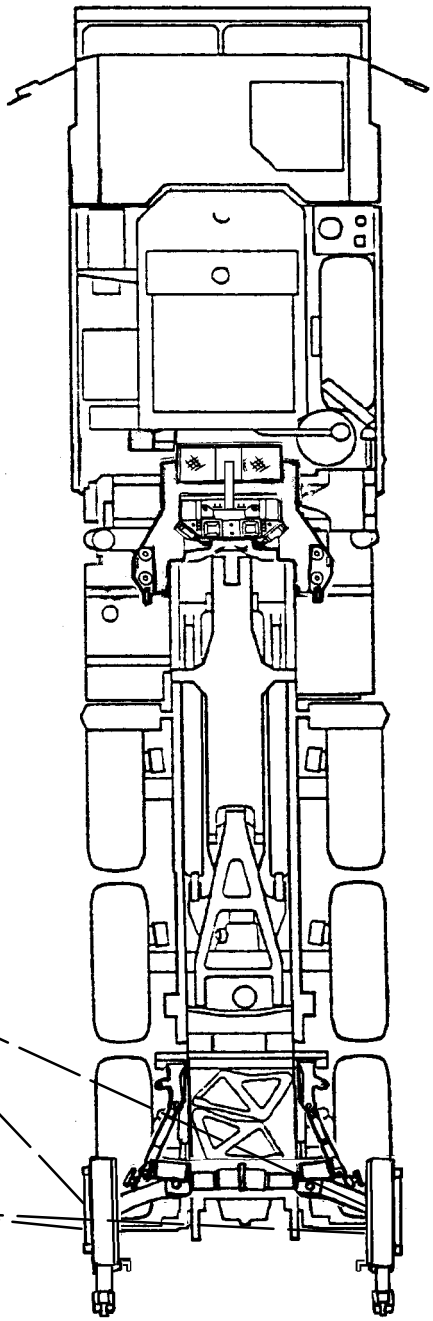
Rear Container Locks

Lubricate with oil can. OE,HDO M/50HRS
(See Note 6 and View 35.)

CHU KIT

Section III. LUBRICATION POINTS (CONT).

LUBRICANT • INTERVAL



Slider Pivot Locks

Lubricate. (2 fittings) GAAM/50HRS
(See Notes 5a, 5b and View 34.)

Slider Pins

Lubricate. (2 fittings) GAAS/5,000 MILES
(See Notes 5a, 5b and View 34.)

Section III. LUBRICATION POINTS (CONT).

LUBRICANT • INTERVAL

Flipper Lock Pins

Lubricate with oil can. OE,HDO M/50HRS
(See Note 6 and View 36.)

Flipper Bracket Lock Plate Lock Pins

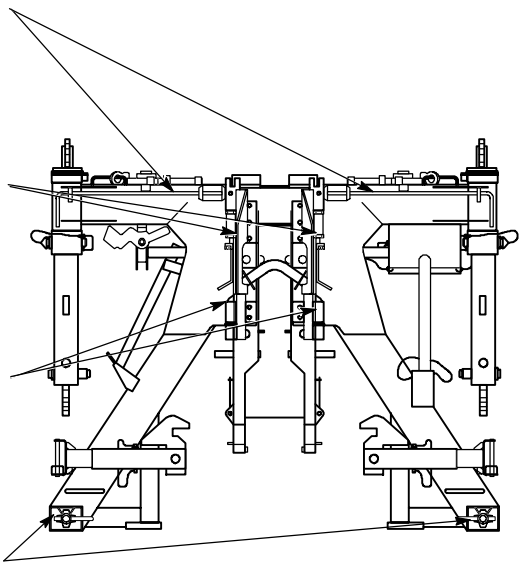
Lubricate with oil can. OE,HDO M/50HRS
(See Note 6 and View 36.)

LF Locking Plates

Lubricate with oil can. OE,HDO M/50HRS
(See Note 6 and View 37.)

LF ISO Twist Locks

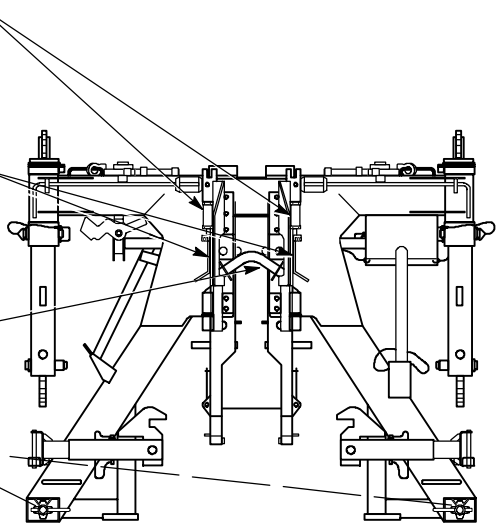
Lubricate with oil can. OE,HDO M/50HRS
(See Note 6 and View 38.)



CHU KIT

Section III. LUBRICATION POINTS (CONT).

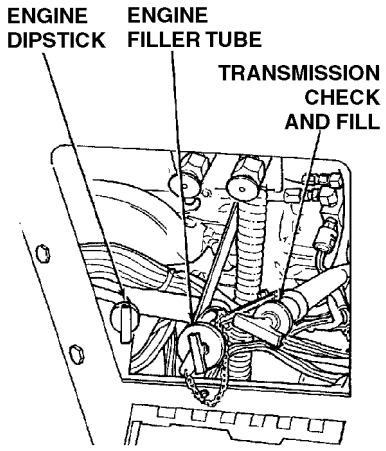
	LUBRICANT • INTERVAL	
Flippers		
Lubricate with oil can. (See Note 6 and View 36.)	OE,HDO	M/50HRS
Flipper Bracket Lock Plate		
Lubricate with oil can. (See Note 6 and View 36.)	OE,HDO	M/50HRS
Lifting Frame Hook Bar		
Clean and coat with grease (See View 39.)	GAA	AR
LF ISO Twist Locks		
Lubricate. (2 fittings) (See Notes 5a, 5b and View 38.)	GAAM/50HRS	



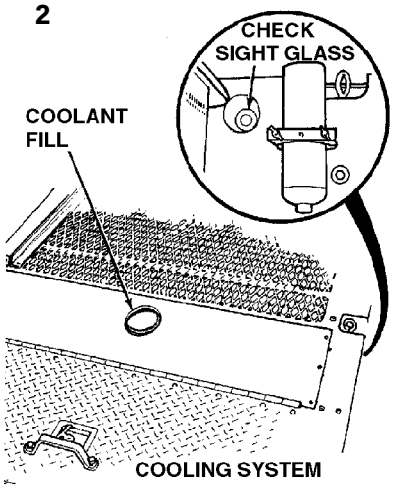
CHU KIT

LOCALIZED LUBRICATION VIEW POINTS.

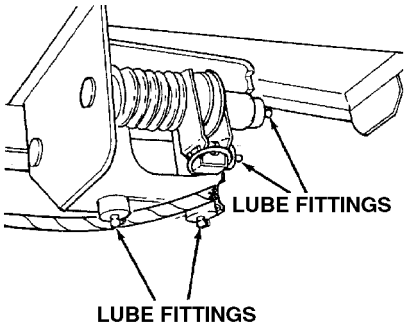
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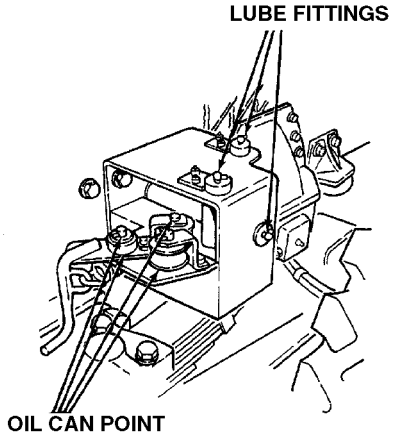


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SELF-RECOVERY WINCH FRONT GUIDE

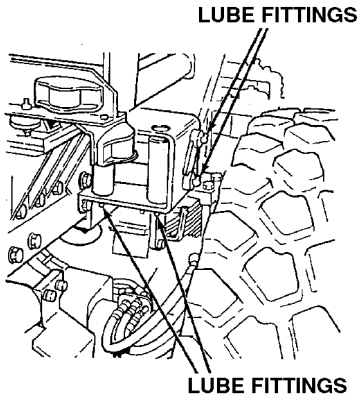
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SELF-RECOVERY WINCH TENSION GUIDE

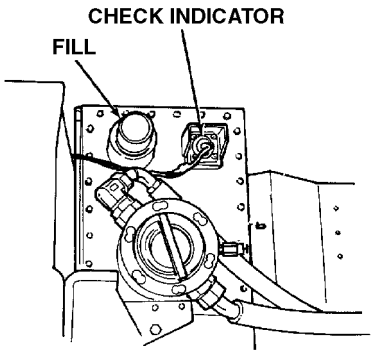
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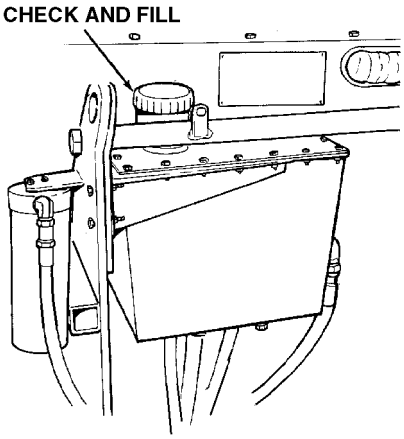
SELF-RECOVERY WINCH
REAR GUIDE

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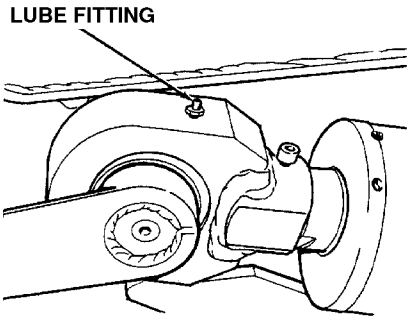
MAIN HYDRAULIC RESERVOIR

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POWER STEERING RESERVOIR

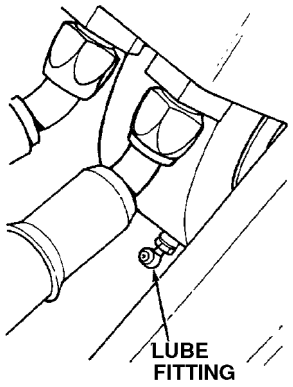
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HOOK ARM CYLINDER PIVOT PIN
(FRONT)

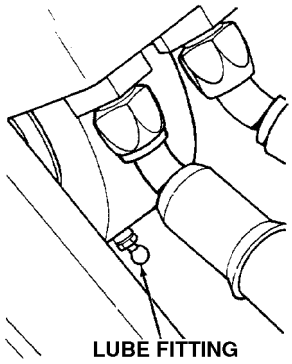
LOCALIZED LUBRICATION VIEW POINTS (CONT).

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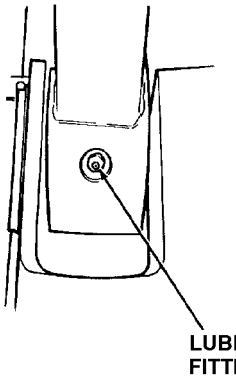
MAIN CYLINDER
PIVOT PINS (FRONT)

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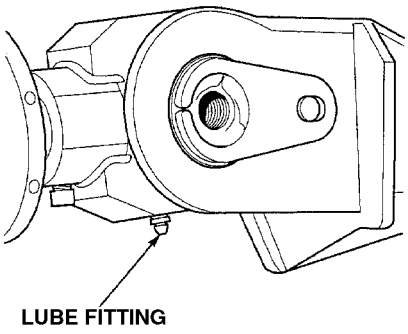
HOOK ARM CYLINDER
PIVOT PIN (REAR)

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HOOK ARM PIVOT PIN (REAR)

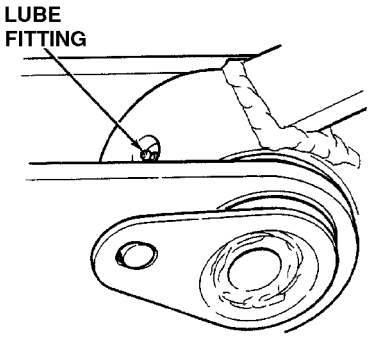
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MAIN CYLINDER PIVOT PIN (REAR)

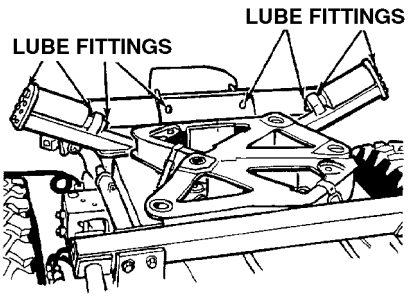
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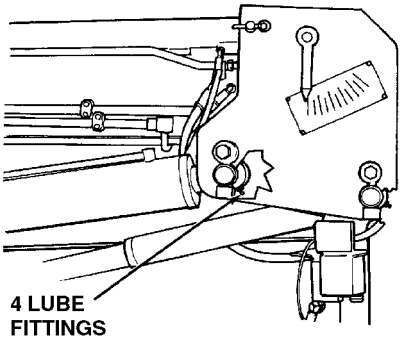
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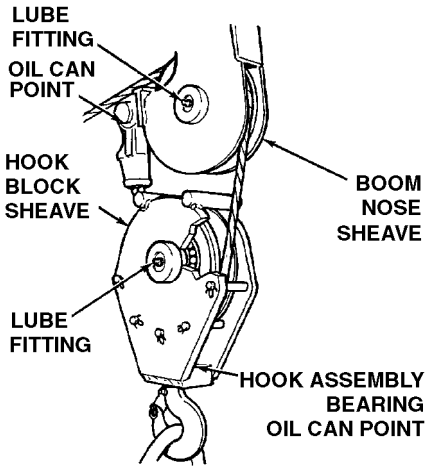
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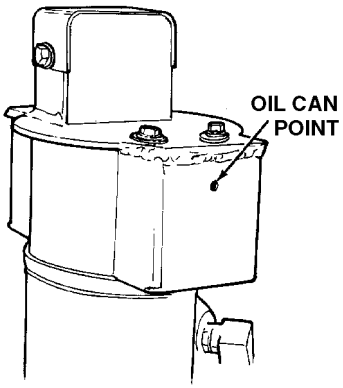
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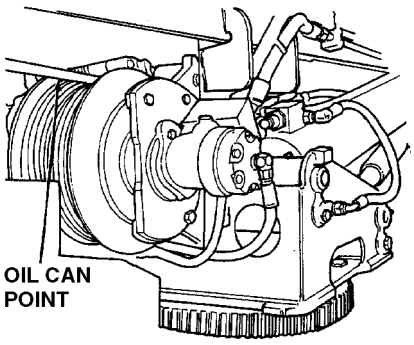
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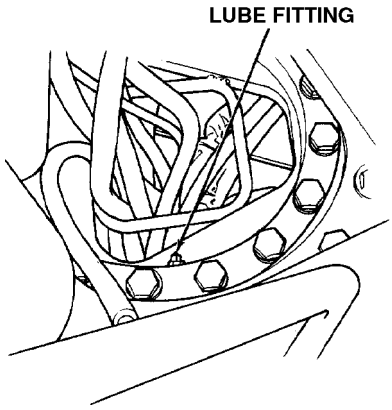
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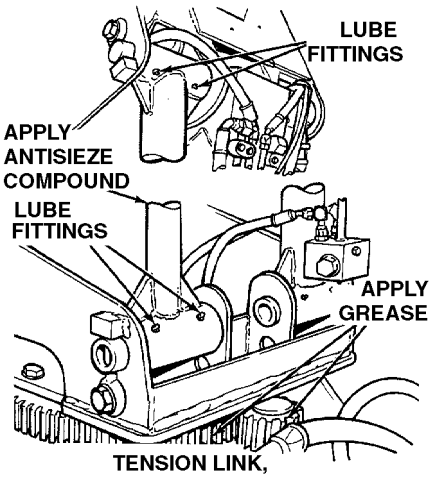
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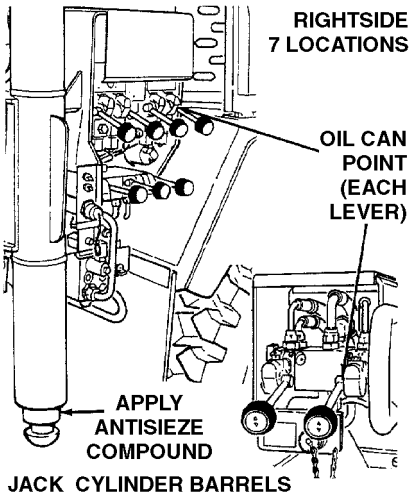
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TENSION LINK,
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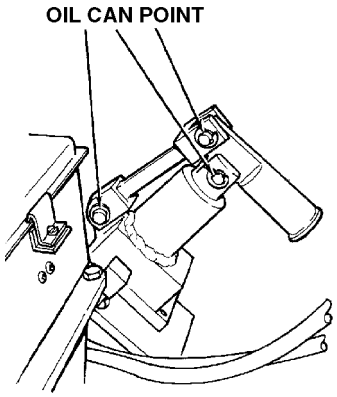
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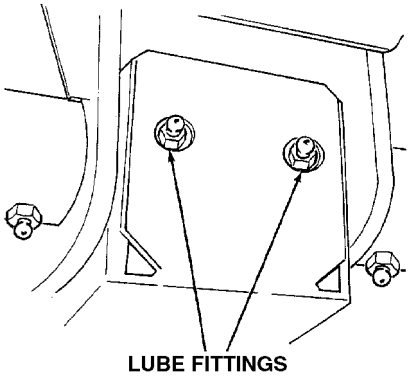
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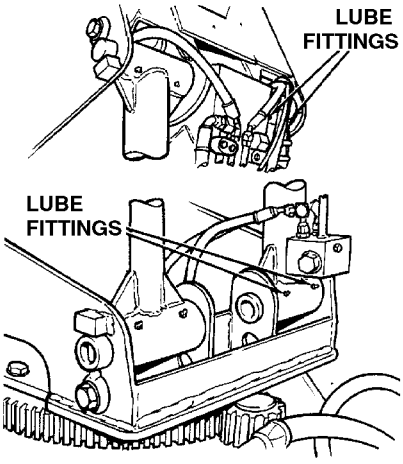
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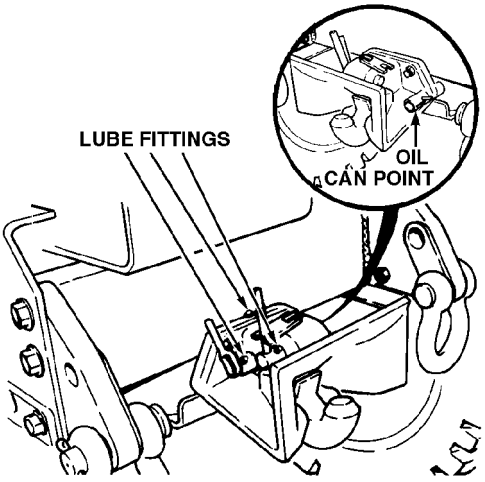
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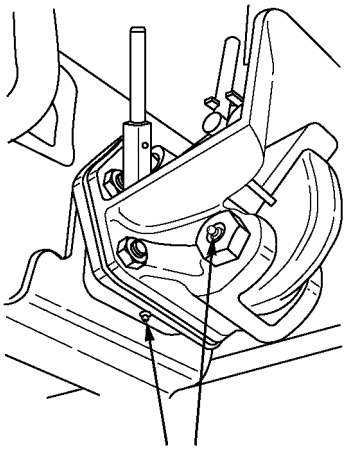
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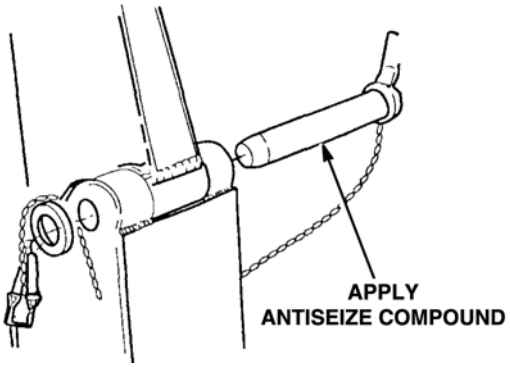
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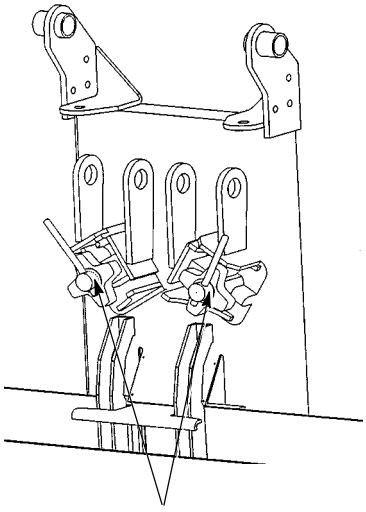
SELF-GUIDED COUPLER

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LHS HOOK ARM PIN

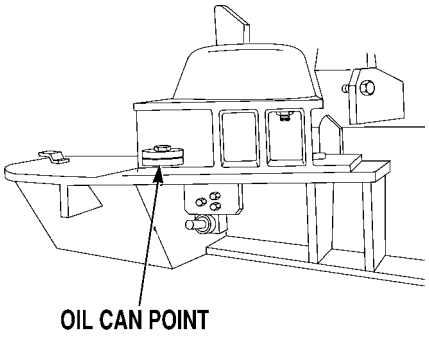
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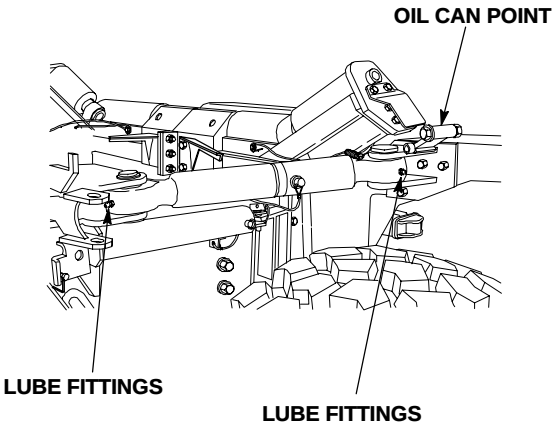
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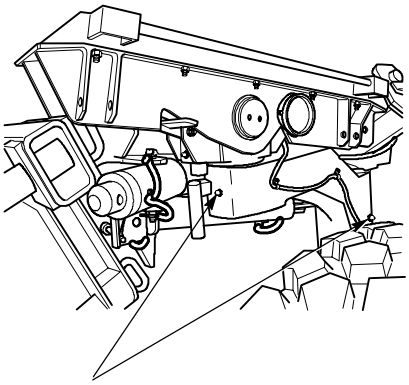
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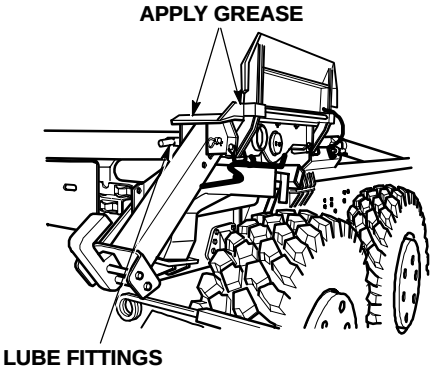
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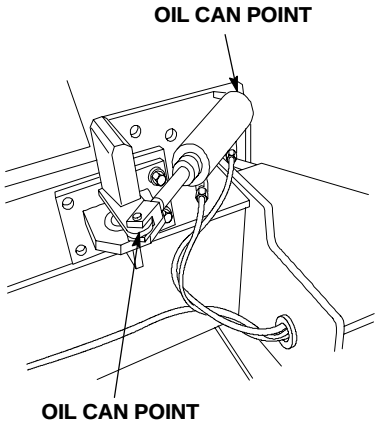
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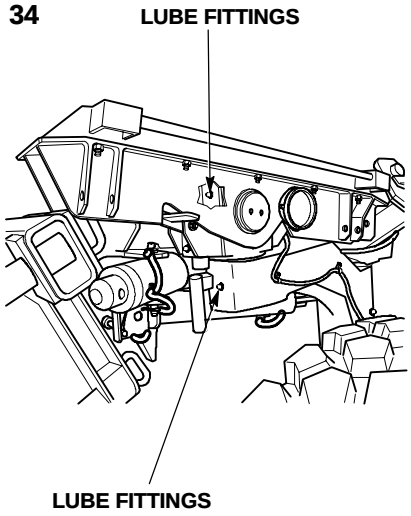
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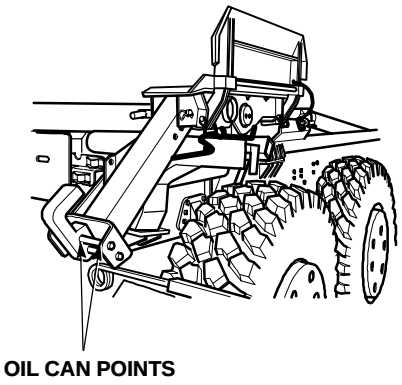
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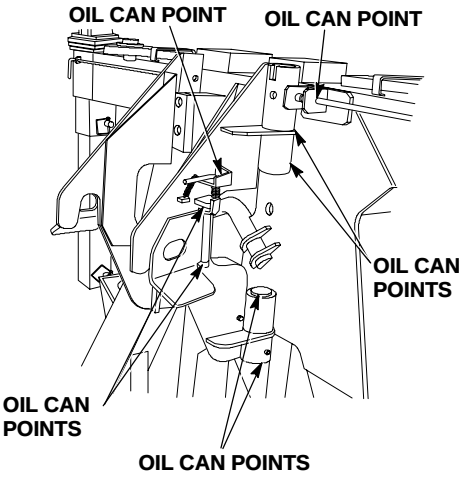
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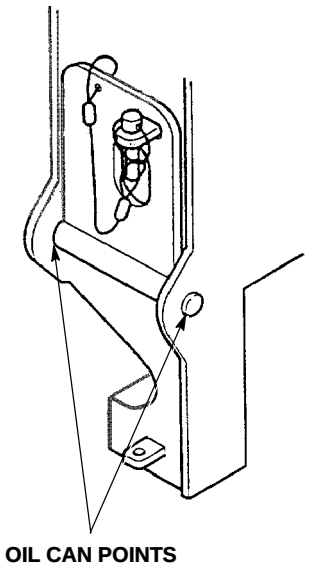
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FLIPPER LOCK PINS, BRACKET LOCK PLATE LOCK PINS AND FLIPPERS

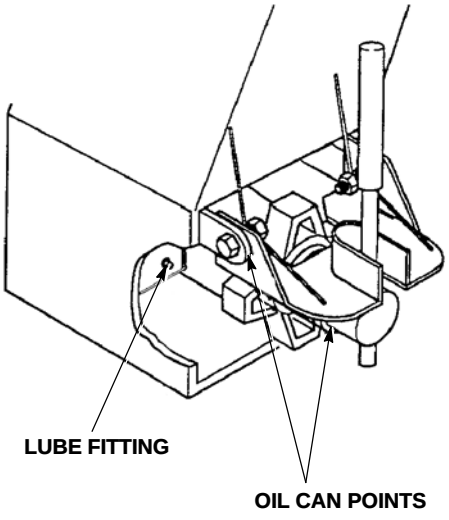
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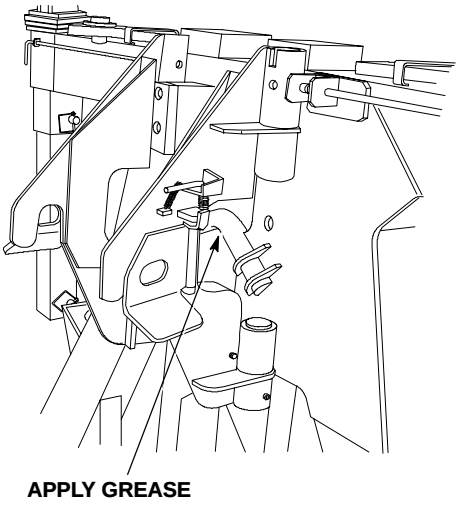
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LF HOOK BAR

NOTES

1. ENGINE AND TRANSMISSION.

a. Cold Oil Check. When initially filling or changing the transmission fluid, use the COLD band on dipstick. At an initial operating temperature of 60 to 120 degrees F (16 to 49 degrees C), fill the transmission so the fluid is in COLD range.

NOTE

Loosen T-handle on transmission dipstick approximately one full turn after dipstick can be removed from check and fill tube with slight resistance.

b. Hot Oil Check. Operate engine one minute at 1000 RPM, idle until transmission temperature reaches 180 to 220 degrees F (82 to 104 degrees C). With engine idling, transmission in neutral, and truck on level ground, check transmission dipstick. If oil level is within the HOT/RUN band the quantity of oil in the transmission is safe for operation. If oil level is on or below bottom line of HOT/RUN band, notify Unit Maintenance.

c. Crankcase. Check oil level with truck parked on level ground and the engine off and cool. Do not overfill crankcase.

d. Engine Oil. OE/HDO 40 must be used in temperatures consistently above 100 degrees F (38 degrees C).

e. Transmission Oil. OE/HDO 15W/40 must be used when temperatures are consistently above 100 degrees F (38 degrees C).

2. SELF-RECOVERY WINCH (SRW), MATERIAL HANDLING CRANE (MHC) AND LOAD HANDLING SYSTEM (LHS).

NOTE

If the part does not purge clean lubricant, notify Unit Maintenance.

a. Purging of Lubricant. When using a grease gun, apply lubricant to the fitting until clean lubricant squeezes out of the part being lubricated.

b. Lubricate Self-Recovery Winch (SRW) front guide horizontal shaft and sheave by turning and sliding sheave along length of shaft while applying grease with grease gun.

c. Apply grease to lift hook more often if PLS truck mileage is low, but LHS usage is high.

d. The 50 hour interval is based on actual LHS or MHC operating hours. The hours can be tracked by the operator and recorded in the logbook. The LHS or MHC should be lubricated on a monthly or 50 actual operating hour interval, whichever comes first.

e. To allow access to the hook arm cylinder rear grease fittings and LHS hook arm pin, LHS should be fully extended.

f. Use oil can sparingly. A single oil can application at each oil can hole is required.

g. Lubricate boom wear pads, and exposed rotation gears more often when cranes are operated in sandy or dusty conditions.

WARNING

Lift-hook weighs 150 lbs. (68 kg). Attach suitable lifting device prior to removal or installation of LHS hook arm pin to prevent possible injury to personnel.

h. Remove safety pin and washer to remove LHS hook arm pin. Lubricate LHS hook arm pin and reinstall with washer and safety pin.

3. HYDRAULIC/STEERING SYSTEM.

OE/HDO 30 must be used when temperatures are consistently above 60 degrees F (16 degrees C).

4. OIL CAN POINTS.

Lubricate doors, side panels, engine cover hinges, locks and pivot points every 1,500 mi. (2,414 km) or Semiannually. Lubricate more often if usage is high. Lubricate door rotary locks and latches with lubricant cleaner.

5. CONTAINER HANDLING UNIT.

CAUTION

Sliders may require frequent greasing (possibly every load, depending on environment) to minimize container jerking during load/unload sequence. Container jerking can result in damage to container and/or contents.

NOTE

If the part does not purge clean lubricant, notify Unit Maintenance.

a. Purging of Lubricant. When using a grease gun, apply lubricant to the fitting until clean lubricant squeezes out of part being lubricated.

b. Lubrication Fittings. Lubricate fittings with a manual grease gun. Do not use an air powered grease gun.

6. OIL CAN POINTS.

Lubricate pivot points every 1,500 mi. (2,414 km) or Semiannually. Lubricate more often if usage is high.

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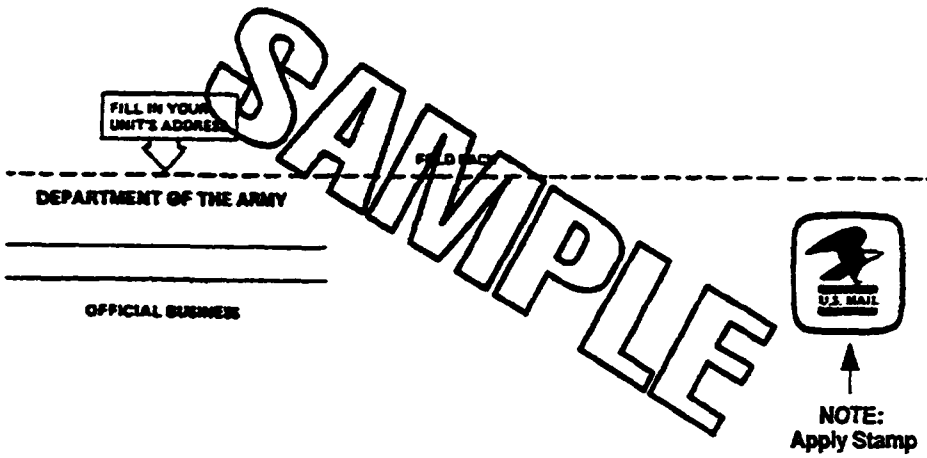
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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE
1 Centimeter=10 Millimeters=0.01 Meters=0.3937 Inches
1 Meter=100 Centimeters=1000 Millimeters=39.37 Inches
1 Kilometer=1000 Meters=0.621 Miles

WEIGHTS
1 Gram=0.001 Kilograms=1000 Milligrams=0.035 Ounces
1 Kilogram=1000 Grams=2.2 Lb
1 Metric Ton=1000 Kilograms=1 Megagram=1.1 Short Tons

LIQUID MEASURE
1 Milliliter=0.001 Liters=0.0338 Fluid Ounces
1 Liter=1000 Milliliters=33.82 Fluid Ounces

SQUARE MEASURE
1 Sq Centimeter=100 Sq Millimeters=0.155 Sq Inches
1 Sq Meter=10,000 Sq Centimeters=10.76 Sq Feet
1 Sq Kilometer=1,000,000 Sq Meters=0.386 Sq Miles

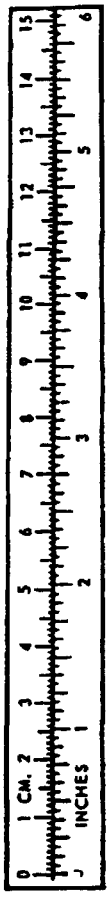
CUBIC MEASURE
1 Cu Centimeter=1000 Cu Millimeters=0.06 Cu Inches
1 Cu Meter=1,000,000 Cu Centimeters=35.31 Cu Feet

TEMPERATURE
5/9 (°F − 32) = °C
212° Fahrenheit is equivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5 C° + 32 = F°

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds/Sq Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Sq Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Sq Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Sq Inch	0.145
Km per Liter	Miles per Gallon	2.354
Km per Hour	Miles per Hour	0.621



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